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RESEARCH MEMORANDUM

SECTION THRUST COEFFICIENTS FOR A FULL-SCALE, THREE-BLADE, SUPERSONIC-TYPE PROPELLER OPERATING AT LOW AND NEGATIVE BLADE ANGLES

By Leland B. Salters, Jr., and Martha C. Lewis

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NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

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SUMMARY

An investigation has been conducted at the Langley 16-foot transonic tunnel at Mach number of about 0.14 (110 miles per hour) to determine the aerodynamic loading on a three-blade, 9.75-foot-diameter, supersonic-type propeller when used as a brake. The results of the slipstream survey are presented without analysis in tabular form for blade-angle settings at the 0.75 radial station from 16.4° to -13.6° in approximately 5° increments.

INTRODUCTION

An investigation of the aerodynamic characteristics of full-scale supersonic-type propellers has been conducted at the Langley 16-foot transonic tunnel and some of the results are given in references 1 and 2. Included in the investigation was an evaluation of the Curtiss-Wright 109626 propeller when used as a brake wherein the propeller was tested at low Mach numbers and at low positive and negative blade-angle settings. The force data obtained during this evaluation were included in reference 1. The wake-survey data are included in this paper without analysis in the form of tabulations for 16.4°, 11.4°, 6.4°, 1.4°, -3.6°, -8.6°, and -13.6° blade-angle settings at the 0.75 radial station at Mach number 0.14.

SYMBOLS

b	blade chord, ft
$c_{l,d}$	section design lift coefficient

c_t	section thrust coefficient
D	propeller diameter, ft
h	blade-section thickness, ft
J	advance ratio, $\frac{V}{nD}$
M	tunnel airstream Mach number
n	propeller rotational speed, rps
Δp_t	pressure rise through the propeller, lb/sq ft
R	propeller-tip radius, ft
r	radius to blade element, ft
t_t	tunnel airstream total temperature, $^{\circ}F$
V	tunnel airstream velocity, ft/sec
x	fractional radius to propeller blade section, r/R
β	propeller blade angle, deg
$\beta_{0.75R}$	blade-angle setting at 0.75 radial station, deg
ρ_t	stagnation density, slugs/cu ft

APPARATUS

Propeller

The three-blade 9.75-foot-diameter propeller designated as the Curtiss-Wright design number 109626 is shown in figure 1 and described in reference 1. Blade-form curves are given in figure 2. The blades were of solid steel and designed for a four-blade 10-foot-diameter propeller configuration with peak efficiency at 35,000-foot altitude, 2,600 rpm, a Mach number of 0.95, and an advance ratio of 2.2. The propeller was tested at the Langley 16-foot transonic tunnel on the 6,000-horsepower propeller dynamometer as described in reference 3 and shown in figures 1 and 3.

Wake-Survey Rakes

The two rakes used in this investigation incorporated static- and total-pressure tubes with radial positions from $x = 0.324$ to $x = 1.406$. Figure 4 gives the details of the rakes and figure 1 shows the rakes installed in the tunnel test section. The rake orifices were located 51 inches (0.44 propeller diameter) behind the propeller plane of rotation.

TESTS

The tests were made at a constant Mach number of approximately 0.14 with blade angles at the 0.75 radial station varying from 16.4° to -13.6° in approximately 5° increments. For each blade-angle setting the rotational speed was varied over the greatest possible range within the limitations of power and within the limitations imposed by blade flutter sensitivity.

REDUCTION OF DATA

The method used for computing the section thrust coefficient from rake data is presented in reference 4, wherein the following equation for the blade-section thrust coefficient is derived:

$$c_t = \frac{1}{4} \frac{J^2 \pi x \, \Delta p_t}{\frac{1}{2}\rho_t V^2}$$

where Δp_t is obtained directly from total-pressure measurements. No corrections were applied for contraction or expansion of the slipstream between propeller and rake.

RESULTS

The results of the slipstream survey are presented in tables I to VII. The tables show the total pressure and section thrust coefficient for each rake probe within the boundary of the slipstream for various values of rotational speed and blade-angle settings. It may be noted that because of the 51-inch distance (0.44 propeller diameter) between the propeller plane of rotation and the orifices of the rake probes, the diameter of

the slipstream at the rake is not always equal to the propeller diameter. Both contractions and expansions in slipstream diameter are registered at the rake. Errors in the tabulated values may exist due to malfunctions of some individual total-pressure probes but these will be obvious when the data are plotted.

The following index is provided for convenient reference to the tabulated data:

Table	$\beta_{0.75R}$, deg	M	Range of rotational speed, rpm
I	16.4	0.146	1,100 to 2,000
II	11.4	.151	1,250 to 2,100
III	6.4	.145	700 to 2,100
IV	1.4	.147	300 to 590
V	-3.6	.145	300 to 600
VI	-8.6	.145	300 to 950
VII	-13.6	.136	300 to 700

Langley Aeronautical Laboratory,
National Advisory Committee for Aeronautics,
Langley Field, Va., December 10, 1957.

REFERENCES

1. Maynard, Julian D., Swihart, John M., and Norton, Harry T., Jr.: Effect of Blade-Section Camber on Aerodynamic Characteristics of Full-Scale Supersonic-Type Propellers at Mach Numbers to 1.04. NACA RM L56E10, 1956.

2. Salters, Leland B., Jr.: Investigation at Mach Numbers to 1.04 of Blade-Loading Characteristics of Two Full-Scale Three-Blade Supersonic Propellers Differing in Blade-Section Camber. NACA RM L57C19, 1957.

3. Wood, John H., and Swihart, John M.: The Effect of Blade-Section Camber on the Static Characteristics of Three NACA Propellers. NACA RM L51L28, 1952.

4. Davidson, Robert E.: Propeller Lift and Thrust Distribution From Wake Surveys of Stagnation Condition. NACA RM L51K29, 1952.

TABLE I

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 16.4^{\circ}$

[M = 0.146; p_t = 2,133 lb/sq ft; t_t = 80° F]

x	Rotational speed, rpm									
	1,100		1,140		1,170		1,290		1,320	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	-0.0209	-2.73	-0.0111	-1.55	-0.0037	-0.55	0.0087	1.55	0.0118	2.22
.380	-.0174	-2.14	-.0064	-.84	.0040	.55	.0137	2.31	.0164	2.90
.403	-.0246	-2.85	-.0132	-1.64	.0035	.46	.0145	2.31	.0187	3.11
.426	-.0260	-2.85	-.0135	-1.59	-.0020	-.25	.0154	2.31	.0205	3.23
.449	-.0233	-2.43	-.0098	-1.09	.0018	.21	.0177	2.52	.0216	3.23
.471	-.0266	-2.64	-.0122	-1.30	.0019	.21	.0185	2.52	.0227	3.23
.495	-.0280	-2.64	-.0111	-1.13	.0032	.34	.0195	2.52	.0238	3.23
.517	-.0325	-2.94	-.0169	-1.64	-.0021	-.21	.0186	2.31	.0249	3.23
.540	-.0359	-3.11	-.0226	-2.10	-.0056	-.55	.0191	2.27	.0253	3.15
.585	-.0373	-2.98	-.0234	-2.01	-.0032	-.29	.0207	2.27	.0275	3.15
.631	-.0431	-3.19	-.0274	-2.18	-.0060	-.50	.0203	2.06	.0268	2.85
.654	-.0446	-3.19	-.0301	-2.31	-.0062	-.50	.0197	1.93	.0262	2.69
.676	-.0224	-1.55	.0005	.04	.0327	2.56	.0266	2.52	.0271	2.69
.700	-.0527	-3.52	-.0357	-2.56	-.0094	-.71	.0161	1.47	.0232	2.22
.722	-.0544	-3.52	-.0338	-2.35	-.0086	-.63	.0142	1.26	.0208	1.93
.745	-.0595	-3.73	-.0411	-2.77	-.0100	-.71	.0113	.97	.0168	1.51
.768	-.0717	-4.36	-.0520	-3.40	-.0219	-1.51	.0050	.42	.0129	1.13
.791	-.0760	-4.49	-.0555	-3.52	-.0277	-1.85	-.0016	-.13	.0094	.80
.813	-.0804	-4.62	-.0598	-3.69	-.0335	-2.18	-.0043	-.34	.0035	.29
.859	-.0934	-5.08	-.0782	-4.57	-.0505	-3.11	-.0163	-1.22	-.0081	-.63
.905	-.1040	-5.37	-.0841	-4.66	-.0575	-3.36	-.0242	-1.72	-.0175	-1.30
.927	-.1073	-5.41	-.0915	-4.95	-.0670	-3.82	-.0285	-1.97	-.0220	-1.59
.950	-.1110	-5.46	-.0937	-4.95	-.0708	-3.94	-.0317	-2.14	-.0249	-1.76
.973	-.1110	-5.33	-.0944	-4.87	-.0735	-3.99	-.0325	-2.14	-.0274	-1.89
.996	-.1047	-4.91	-.0842	-4.24	-.0626	-3.32	-.0300	-1.93	-.0243	-1.64
1.018	-.0211	-.97	-.0178	-.88	-.0073	-.38	-.0006	-.04	.0000	.00
1.042	.0029	.13	.0027	.13	.0049	.25	.0062	.38	.0065	.42
Rake 2										
0.324	0.0012	0.17	0.0008	0.13	0.0000	0.00	0.0002	0.04	0.0004	0.08
.346	-.0199	-2.69	-.0110	-1.59	-.0016	-.25	.0072	1.34	.0095	1.85
.369	-.0159	-2.01	-.0086	-1.17	.0015	.21	.0116	2.01	.0141	2.56
.392	-.0190	-2.27	-.0108	-1.38	.0000	.04	.0141	2.31	.0174	2.98
.415	------	-----	------	-----	------	----	------	----	------	----
.437	-.0232	-2.48	-.0125	-1.43	.0017	.21	.0157	2.31	.0197	3.02
.460	-.0239	-2.43	-.0096	-1.05	.0055	.63	.0178	2.48	.0213	3.11
.483	-.0251	-2.43	-.0129	-1.34	.0027	.29	.0187	2.48	.0224	3.11
.505	-.0304	-2.81	-.0148	-1.47	-.0004	-.04	.0182	2.31	.0227	3.02
.551	-.0336	-2.85	-.0175	-1.59	-.0008	-.08	.0195	2.27	.0245	2.98
.597	-.0402	-3.15	-.0239	-2.01	-.0062	-.55	.0199	2.14	.0265	2.98
.620	-.0467	-3.52	-.0311	-2.52	-.0103	-.88	.0187	1.93	.0256	2.77
.642	-.0484	-3.52	-.0301	-2.35	-.0097	-.80	.0185	1.85	.0257	2.69
.666	-.0502	-3.52	-.0312	-2.35	-.0084	-.67	.0192	1.85	.0262	2.64
.688	-.0489	-3.32	-.0288	-2.10	-.0055	-.42	.0185	1.72	.0249	2.43
.710	-.0555	-3.65	-.0374	-2.64	-.0130	-.97	.0148	1.34	.0213	2.01
.734	-.0619	-3.94	-.0424	-2.90	-.0192	-1.38	.0125	1.09	.0197	1.80
.756	-.0747	-4.62	-.0493	-3.27	-.0295	-2.06	.0079	.67	.0166	1.47
.779	-.0770	-4.62	-.0573	-3.69	-.0327	-2.22	.0041	.34	.0180	1.55
.825	-.0874	-4.95	-.0669	-4.07	-.0393	-2.52	-.0054	-.42	.0016	.13
.871	-.1064	-5.71	-.0830	-4.78	-.0643	-3.90	-.0177	-1.30	-.0082	-.63
.893	-.1106	-5.79	-.0867	-4.87	-.0674	-3.99	-.0221	-1.59	-.0134	-1.01
.916	-.1168	-5.96	-.0973	-5.33	-.0771	-4.45	-.0282	-1.97	-.0195	-1.43
.939	-.1190	-5.92	-.0966	-5.16	-.0760	-4.28	-.0308	-2.10	-.0217	-1.55
.962	-.1219	-5.92	-.0974	-5.08	-.0786	-4.32	-.0327	-2.18	-.0252	-1.76
.984	-.1247	-5.92	-.1012	-5.16	-.0804	-4.32	-.0355	-2.31	-.0277	-1.89
1.007	-.1177	-5.46	-.0943	-4.70	-.0743	-3.90	-.0324	-2.06	-.0258	-1.72
1.030	-.0278	-1.26	-.0181	-.88	-.0115	-.59	.0013	.08	.0000	.00

TABLE I.- Continued

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 16.4^{\circ}$

$[M = 0.146;\ p_t = 2{,}133$ lb/sq ft; $t_t = 80^{\circ}$ F$]$

x	Rotational speed, rpm									
	1,350		1,380		1,410		1,450		1,500	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	0.0154	3.02	0.0192	3.94	0.0229	4.91	0.0282	6.38	0.0326	7.89
.380	.0198	3.65	.0235	4.53	.0283	5.71	.0329	7.01	.0374	8.52
.403	.0234	4.07	.0283	5.16	.0324	6.17	.0401	8.06	.0445	9.57
.426	.0249	4.11	.0293	5.04	.0361	6.50	.0430	8.18	.0489	9.95
.449	.0263	4.11	.0311	5.08	.0388	6.63	.0465	8.39	.0509	9.82
.471	.0282	4.20	.0337	5.25	.0412	6.71	.0490	8.43	.0545	10.03
.495	.0296	4.20	.0354	5.25	.0410	6.34	.0520	8.52	.0575	10.07
.517	.0309	4.20	.0385	5.46	.0450	6.67	.0549	8.60	.0616	10.32
.540	.0316	4.11	.0402	5.46	.0450	6.38	.0573	8.60	.0649	10.41
.585	.0342	4.11	.0435	5.46	.0480	6.29	.0630	8.73	.0703	10.41
.631	.0335	3.73	.0437	5.08	.0497	6.04	.0656	8.43	.0730	10.03
.654	.0340	3.65	.0438	4.91	.0498	5.83	.0667	8.27	.0735	9.74
.676	.0323	3.36	.0394	4.28	.0459	5.20	.0616	7.39	.0678	8.69
.700	.0314	3.15	.0421	4.41	.0502	5.50	.0663	7.68	.0753	9.32
.722	.0285	2.77	.0393	3.99	.0463	4.91	.0643	7.22	.0717	8.60
.745	.0249	2.35	.0357	3.52	.0437	4.49	.0613	6.67	.0703	8.18
.768	.0225	2.06	.0316	3.02	.0412	4.11	.0601	6.34	.0699	7.89
.791	.0189	1.68	.0294	2.73	.0381	3.69	.0573	5.87	.0689	7.55
.813	.0122	1.05	.0242	2.18	.0320	3.02	.0510	5.08	.0626	6.67
.859	.0016	.13	.0137	1.17	.0212	1.89	.0418	3.94	.0532	5.37
.905	-.0098	-.76	.0005	.04	.0090	.76	.0277	2.48	.0377	3.61
.927	-.0144	-1.09	-.0048	-.38	.0016	.13	.0177	1.55	.0243	2.27
.950	-.0187	-1.38	-.0104	-.80	-.0068	-.55	.0083	.71	.0092	.84
.973	-.0198	-1.43	-.0129	-.97	-.0085	-.67	.0041	.34	.0038	.34
.996	-.0184	-1.30	-.0125	-.92	-.0071	-.55	.0047	.38	.0024	.21
1.018	.0000	.00	.0029	.21	-.0005	-.04	.0095	.76	.0054	.46
1.042	.0050	.34	.0060	.42	.0039	.29	.0140	1.09	.0071	.59
Rake 2										
0.324	0.0004	0.08	0.0004	0.08	0.0000	0.00	0.0012	0.29	0.0000	0.00
.346	.0128	2.60	.0160	3.40	.0191	4.24	.0253	5.92	.0291	7.30
.369	.0172	3.27	.0205	4.07	.0243	5.04	.0310	6.80	.0348	8.18
.392	.0206	3.69	.0242	4.53	.0285	5.58	.0363	7.51	.0397	8.77
.415	------	-----	------	-----	------	----	------	----	------	-----
.437	.0240	3.86	.0291	4.87	.0335	5.87	.0414	7.68	.0474	9.40
.460	.0258	3.94	.0310	4.95	.0363	6.04	.0448	7.89	.0510	9.60
.483	.0274	3.99	.0323	4.91	.0391	6.21	.0485	8.14	.0540	9.69
.505	.0287	3.99	.0343	4.99	.0418	6.34	.0510	8.18	.0575	9.86
.551	.0313	3.99	.0379	5.04	.0459	6.38	.0565	8.31	.0638	10.03
.597	.0339	3.99	.0413	5.08	.0471	6.04	.0621	8.43	.0697	10.11
.620	.0337	3.82	.0415	4.91	.0506	6.25	.0617	8.06	.0712	9.95
.642	.0334	3.65	.0404	4.62	.0506	6.04	.0631	7.97	.0728	9.82
.666	.0342	3.61	.0427	4.70	.0515	5.92	.0645	7.85	.0736	9.57
.688	.0329	3.36	.0401	4.28	.0501	5.58	.0641	7.55	.0730	9.19
.710	.0398	3.94	.0381	3.94	.0486	5.25	.0633	7.22	.0729	8.90
.734	.0281	2.69	.0365	3.65	.0478	4.99	.0620	6.84	.0736	8.69
.756	.0253	2.35	.0342	3.32	.0443	4.49	.0599	6.42	.0710	8.14
.779	.0229	2.06	.0308	2.90	.0406	3.99	.0564	5.87	.0668	7.43
.825	.0103	.88	.0189	1.68	.0312	2.90	.0470	4.62	.0575	6.04
.871	.0000	.17	.0109	.92	.0219	1.93	.0401	3.73	.0519	5.16
.893	-.0037	-.29	.0061	.50	.0151	1.30	.0328	2.98	.0471	4.57
.916	-.0099	-.76	-.0005	-.04	.0075	.63	.0261	2.31	.0377	3.57
.939	-.0135	-1.01	-.0059	-.46	.0000	.00	.0136	1.17	.0205	1.89
.962	-.0178	-1.30	-.0121	-.92	-.0063	-.50	.0050	.42	.0032	.29
.984	-.0212	-1.51	-.0152	-1.13	-.0081	-.63	.0005	.04	.0009	.08
1.007	-.0186	-1.30	-.0144	-1.05	-.0066	-.50	-.0010	-.08	.0020	.17
1.030	-.0006	-.04	.0006	.04	.0000	.00	.0027	.21	.0025	.21

TABLE I.- Concluded

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 16.4^{\circ}$

$[M = 0.146;\ p_t = 2{,}133$ lb/sq ft; $t_t = 80^{\circ}$ F$]$

x	Rotational speed, rpm									
	1,550		1,600		1,700		1,800		2,000	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	0.0352	9.11	0.0419	11.54	0.0483	15.02	0.0567	19.77	0.0640	27.53
.380	.0400	9.74	.0474	12.30	.0541	15.86	.0631	20.73	.0695	28.20
.403	.0481	11.04	.0566	13.85	.0635	17.54	.0740	22.91	.0823	31.47
.426	.0521	11.33	.0613	14.18	.0695	18.17	.0816	23.92	.0914	33.07
.449	.0553	11.41	.0648	14.23	.0738	18.30	.0874	24.30	.0973	33.40
.471	.0587	11.54	.0693	14.52	.0786	18.59	.0936	24.80	.1045	34.20
.495	.0613	11.46	.0733	14.60	.0834	18.76	.0990	24.97	.1104	34.37
.517	.0663	11.88	.0787	15.02	.0900	19.39	.1070	25.85	.1200	35.75
.540	.0681	11.67	.0809	14.77	.0950	19.60	.1136	26.27	.1276	36.42
.585	.0724	11.46	.0879	14.81	.1025	19.51	.1241	26.48	.1389	36.59
.631	.0772	11.33	.0934	14.60	.1101	19.43	.1340	26.52	.1512	36.93
.654	.0780	11.04	.0952	14.35	.1124	19.14	.1369	26.14	.1546	36.42
.676	.0732	10.03	.0880	12.84	.1034	17.04	.1270	23.46	.1414	32.23
.700	.0790	10.45	.0974	13.72	.1160	18.46	.1430	25.51	.1626	35.80
.722	.0779	9.99	.0968	13.22	.1153	17.79	.1432	24.76	.1622	34.62
.745	.0760	9.45	.0941	12.46	.1145	17.12	.1415	23.71	.1629	33.70
.768	.0751	9.06	.0948	12.17	.1158	16.79	.1467	23.84	.1692	33.95
.791	.0724	8.48	.0915	11.41	.1136	15.99	.1449	22.87	.1691	32.94
.813	.0678	7.72	.0882	10.70	.1106	15.15	.1432	21.99	.1681	31.85
.859	.0596	6.42	.0775	8.90	.1023	13.26	.1374	19.97	.1645	29.50
.905	.0439	4.49	.0605	6.59	.0812	9.99	.1032	14.23	.1119	19.05
.927	.0243	2.43	.0331	3.52	.0374	4.49	.0346	4.66	.0348	5.79
.950	.0051	.50	.0101	1.05	.0125	1.47	.0147	1.93	.0199	3.23
.973	.0000	.00	.0013	.13	.0052	.59	.0065	.84	.0117	1.85
.996	.0004	.04	.0021	.21	.0041	.46	.0050	.63	.0100	1.55
1.018	.0004	.04	.0018	.17	.0050	.55	.0058	.71	.0102	1.55
1.042	.0015	.13	.0031	.29	.0043	.46	.0042	.50	.0111	1.64
Rake 2										
0.324	0.0000	0.00	0.0010	0.29	0.0002	0.08	0.0005	0.21	0.0004	0.21
.346	.0315	8.43	.0383	10.91	.0434	13.97	.0521	18.80	.0581	25.89
.369	.0375	9.40	.0441	11.79	.0499	15.07	.0594	20.10	.0654	27.32
.392	.0423	9.99	.0500	12.59	.0573	16.28	.0675	21.49	.0751	29.50
.415	-----	-----	------	-----	------	-----	------	-----	------	-----
.437	.0511	10.83	.0604	13.64	.0688	17.54	.0820	23.42	.0907	31.98
.460	.0548	11.04	.0646	13.85	.0733	17.75	.0875	23.75	.0968	32.44
.483	.0584	11.20	.0694	14.18	.0788	18.17	.0942	24.34	.1047	33.40
.505	.0620	11.37	.0737	14.39	.0839	18.51	.1003	24.80	.1115	34.03
.551	.0691	11.62	.0813	14.56	.0934	18.88	.1126	25.51	.1261	35.25
.597	.0766	11.88	.0897	14.81	.1046	19.51	.1254	26.23	.1419	36.63
.620	.0781	11.67	.0926	14.73	.1075	19.30	.1309	26.35	.1489	37.01
.642	.0786	11.33	.0956	14.69	.1108	19.22	.1342	26.10	.1530	36.72
.666	.0803	11.16	.0978	14.48	.1129	18.88	.1370	25.68	.1565	36.21
.688	.0789	10.62	.0972	13.93	.1125	18.21	.1385	25.14	.1568	35.12
.710	.0795	10.37	.0967	13.43	.1132	17.75	.1401	24.63	.1607	34.87
.734	.0798	10.07	.0974	13.09	.1148	17.42	.1423	24.21	.1647	34.58
.756	.0791	9.69	.0978	12.76	.1157	17.04	.1446	23.88	.1682	34.28
.779	.0762	9.06	.0955	12.09	.1136	16.24	.1448	23.21	.1693	33.49
.825	.1047	11.75	.0863	10.32	.1054	14.23	.1378	20.86	.1656	30.93
.871	.0620	6.59	.0830	9.40	.1024	13.09	.1358	19.47	.1670	29.54
.893	.0547	5.67	.0763	8.43	.0962	12.00	.1212	16.95	.1435	24.76
.916	.0448	4.53	.0628	6.76	.0545	8.81	.0739	10.07	.0651	10.95
.939	.0234	2.31	.0311	3.27	.0272	3.23	.0230	3.06	.0225	3.69
.962	.0039	.38	.0095	.97	.0101	1.17	.0075	.97	.0131	2.10
.984	.0004	.04	.0021	.21	.0044	.50	.0020	.25	.0078	1.22
1.007	.0027	.25	.0039	.38	.0026	.29	.0017	.21	.0082	1.26
1.030	.0028	.25	.0026	.25	.0035	.38	.0024	.29	.0078	1.17

TABLE II

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 11.4^\circ$

[M = 0.151; p_t = 2,133 lb/sq ft; t_t = 89° F]

x	Rotational speed, rpm											
	1,250		1,300		1,350		1,400		1,450		1,500	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1												
0.358	-0.0339	-5.58	-0.0311	-5.54	-0.0273	-5.25	-0.0219	-4.53	-0.0146	-3.23	-0.0080	-1.89
.380	-.0327	-5.08	-.0307	-5.16	-.0273	-4.95	-.0211	-4.11	-.0133	-2.77	-.0060	-1.34
.403	-.0422	-6.17	-.0368	-5.83	-.0310	-5.29	-.0240	-4.41	-.0147	-2.90	-.0060	-1.26
.426	-.0470	-6.50	-.0406	-6.08	-.0351	-5.67	-.0270	-4.70	-.0169	-3.15	-.0074	-1.47
.449	-.0486	-6.38	-.0440	-6.25	-.0383	-5.87	-.0303	-4.99	-.0199	-3.52	-.0095	-1.80
.471	-.0533	-6.67	-.0480	-6.50	-.0422	-6.17	-.0328	-5.16	-.0219	-3.69	-.0111	-2.01
.495	-.0571	-6.80	-.0527	-6.80	-.0459	-6.38	-.0362	-5.41	-.0249	-3.99	-.0132	-2.27
.517	-.0651	-7.43	-.0578	-7.13	-.0498	-6.63	-.0396	-5.67	-.0270	-4.15	-.0151	-2.48
.540	-.0723	-7.89	-.0635	-7.51	-.0543	-6.92	-.0435	-5.96	-.0308	-4.53	-.0171	-2.69
.585	-.0770	-7.76	-.0723	-7.89	-.0632	-7.43	-.0521	-6.59	-.0399	-5.41	-.0242	-3.52
.631	-.0939	-8.77	-.0854	-8.64	-.0746	-8.14	-.0626	-7.34	-.0471	-5.92	-.0312	-4.20
.654	-.0996	-8.98	-.0912	-8.90	-.0806	-8.48	-.0679	-7.68	-.0522	-6.34	-.0356	-4.62
.676	-.0828	-7.22	-.0885	-8.35	-.0833	-8.48	-.0728	-7.97	-.0604	-7.09	-.0451	-5.67
.700	-.0642	-5.41	-.1059	-9.65	-.0952	-9.36	-.0802	-8.48	-.0647	-7.34	-.0470	-5.71
.722	-.0694	-5.67	-.1126	-9.95	-.1022	-9.74	-.0884	-9.06	-.0725	-7.97	-.0542	-6.38
.745	-.1272	-10.07	-.1225	-10.49	-.1127	-10.41	-.0975	-9.69	-.0811	-8.64	-.0633	-7.22
.768	-.1431	-10.99	-.1343	-11.16	-.1209	-10.83	-.1058	-10.20	-.0877	-9.06	-.0679	-7.51
.791	-.1520	-11.33	-.1425	-11.50	-.1298	-11.29	-.1143	-10.70	-.0945	-9.48	-.0750	-8.06
.813	-.1609	-11.67	-.1502	-11.79	-.1363	-11.54	-.1203	-10.95	-.1014	-9.90	-.0827	-8.64
.859	-.1792	-12.30	-.1672	-12.42	-.1514	-12.13	-.1339	-11.54	-.1144	-10.57	-.0950	-9.40
.905	-.1920	-12.51	-.1804	-12.72	-.1638	-12.46	-.1462	-11.96	-.1268	-11.12	-.1068	-10.03
.927	-.1986	-12.63	-.1859	-12.80	-.1707	-12.67	-.1524	-12.17	-.1319	-11.29	-.1113	-10.20
.950	-.2069	-12.84	-.1937	-13.01	-.1767	-12.80	-.1579	-12.30	-.1372	-11.46	-.1154	-10.32
.973	-.2119	-12.84	-.1978	-12.97	-.1810	-12.80	-.1617	-12.30	-.1410	-11.50	-.1188	-10.37
.996	-.2098	-12.42	-.1977	-12.67	-.1810	-12.51	-.1632	-12.13	-.1417	-11.29	-.1196	-10.20
1.018	-.2087	-12.09	-.1981	-12.42	-.1819	-12.30	-.1634	-11.88	-.1367	-10.66	-.1101	-9.19
1.042	-.0831	-4.70	-.0692	-4.24	-.0547	-3.61	-.0401	-2.85	-.0253	-1.93	-.0150	-1.22
Rake 2												
0.324	-0.0445	-8.10	-0.0420	-8.27	-0.0370	-7.85	-0.0309	-7.05	-0.0231	-5.67	-0.0157	-4.11
.346	-.0344	-5.87	-.0335	-6.17	-.0302	-6.00	-.0253	-5.41	-.0179	-4.11	-.0114	-2.81
.369	-.0320	-5.12	-.0301	-5.20	-.0256	-4.78	-.0207	-4.15	-.0135	-2.90	-.0073	-1.68
.392	-.0380	-5.71	-.0340	-5.54	-.0284	-4.99	-.0222	-4.20	-.0143	-2.90	-.0066	-1.43
.415	-------	------	-------	------	-------	------	-------	------	-------	------	-------	------
.437	-.0463	-6.25	-.0428	-6.25	-.0365	-5.75	-.0288	-4.87	-.0194	-3.52	-.0103	-2.01
.460	-.0501	-6.42	-.0466	-6.46	-.0401	-6.00	-.0323	-5.20	-.0219	-3.78	-.0120	-2.22
.483	-.0546	-6.67	-.0502	-6.63	-.0435	-6.21	-.0353	-5.41	-.0245	-4.03	-.0136	-2.39
.505	-.0615	-7.18	-.0564	-7.13	-.0484	-6.59	-.0390	-5.71	-.0270	-4.24	-.0160	-2.69
.551	-.0686	-7.34	-.0656	-7.60	-.0575	-7.18	-.0472	-6.34	-.0350	-5.04	-.0218	-3.36
.597	-.0863	-8.52	-.0777	-8.31	-.0670	-7.72	-.0555	-6.88	-.0401	-5.33	-.0266	-3.78
.620	-.0940	-8.94	-.0839	-8.64	-.0730	-8.10	-.0605	-7.22	-.0446	-5.71	-.0306	-4.20
.642	-.0992	-9.11	-.0899	-8.94	-.0786	-8.43	-.0655	-7.55	-.0502	-6.21	-.0349	-4.62
.666	-.1038	-9.19	-.0951	-9.11	-.0841	-8.69	-.0710	-7.89	-.0542	-6.46	-.0388	-4.95
.688	-.1072	-9.19	-.1022	-9.48	-.0898	-8.98	-.0776	-8.35	-.0611	-7.05	-.0449	-5.54
.710	-.1182	-9.82	-.1101	-9.90	-.0983	-9.53	-.0845	-8.81	-.0680	-7.60	-.0516	-6.17
.734	-.1296	-10.41	-.1202	-10.45	-.1084	-10.16	-.0932	-9.40	-.0749	-8.10	-.0587	-6.80
.756	-.1421	-11.08	-.1292	-10.91	-.1161	-10.57	-.0882	-9.95	-.0828	-8.69	-.0650	-7.30
.779	-.1497	-11.33	-.1388	-11.37	-.1250	-11.04	-.1096	-10.41	-.0898	-9.15	-.0720	-7.85
.825	-.1679	-12.01	-.1551	-12.00	-.1413	-11.79	-.1239	-11.12	-.1047	-10.07	-.0872	-8.98
.871	-.1897	-12.84	-.1713	-12.55	-.1557	-12.30	-.1373	-11.67	-.1160	-10.57	-.0981	-9.57
.893	-.1957	-12.92	-.1780	-12.72	-.1612	-12.42	-.1438	-11.92	-.1223	-10.87	-.1032	-9.82
.916	-.2066	-13.30	-.1862	-12.97	-.1693	-12.72	-.1506	-12.17	-.1274	-11.04	-.1086	-10.07
.939	-.2118	-13.30	-.1914	-13.01	-.1735	-12.72	-.1560	-12.30	-.1325	-11.20	-.1117	-10.11
.962	-.2176	-13.34	-.1979	-13.13	-.1800	-12.88	-.1614	-12.42	-.1373	-11.33	-.1164	-10.28
.984	-.2226	-13.34	-.2025	-13.13	-.1842	-12.88	-.1651	-12.42	-.1405	-11.33	-.1201	-10.37
1.007	-.2236	-13.09	-.2032	-12.88	-.1842	-12.59	-.1650	-12.13	-.1411	-11.12	-.1204	-10.16
1.030	-.1883	-10.78	-.1733	-10.74	-.1521	-10.16	-.1244	-8.94	-.0893	-6.88	-.0590	-4.87

TABLE II.- Continued

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 11.4^{\circ}$

[M = 0.151; p_t = 2,133 lb/sq ft; t_t = 89° F]

x	Rotational speed, rpm											
	1,550		1,600		1,650		1,700		1,750		1,800	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1												
0.358	-0.0020	-0.50	0.0030	0.80	0.0110	3.15	0.0158	4.83	0.0187	6.04	0.0218	7.47
.380	.0003	.08	.0059	1.51	.0142	3.86	.0188	5.41	.0221	6.71	.0250	8.06
.403	.0015	.34	.0081	1.93	.0178	4.53	.0234	6.34	.0266	7.64	.0298	9.06
.426	.0006	.13	.0076	1.72	.0186	4.49	.0245	6.29	.0283	7.68	.0321	9.23
.449	-.0010	-.21	.0066	1.43	.0183	4.20	.0247	6.00	.0290	7.47	.0331	9.02
.471	-.0020	-.38	.0061	1.26	.0185	4.03	.0250	5.79	.0297	7.30	.0342	8.90
.495	-.0034	-.63	.0047	.92	.0182	3.78	.0251	5.54	.0305	7.13	.0355	8.77
.517	-.0048	-.84	.0041	.76	.0186	3.69	.0260	5.50	.0315	7.05	.0367	8.69
.540	-.0067	-1.13	.0028	.50	.0177	3.36	.0264	5.33	.0298	6.38	.0376	8.52
.585	-.0119	-1.85	-.0028	-.46	.0138	2.43	.0229	4.28	.0291	5.75	.0363	7.60
.631	-.0171	-2.56	-.0063	-.97	.0118	1.93	.0221	3.82	.0289	5.29	.0366	7.09
.654	-.0218	-3.02	-.0100	-1.47	.0088	1.38	.0196	3.27	.0268	4.74	.0354	6.63
.676	-.0319	-4.28	-.0197	-2.81	-.0014	-.21	.0094	1.51	.0174	2.98	.0264	4.78
.700	-.0330	-4.28	-.0195	-2.69	.0005	.08	.0124	1.93	.0203	3.36	.0297	5.20
.722	-.0401	-5.04	-.0267	-3.57	-.0062	-.88	.0077	1.17	.0157	2.52	.0250	4.24
.745	-.0479	-5.83	-.0333	-4.32	-.0125	-1.72	.0005	.08	.0097	1.51	.0192	3.15
.768	-.0529	-6.25	-.0384	-4.83	-.0160	-2.14	-.0020	-.29	.0070	1.05	.0166	2.64
.791	-.0600	-6.88	-.0443	-5.41	-.0226	-2.94	-.0085	-1.17	.0005	.08	.0103	1.59
.813	-.0673	-7.51	-.0519	-6.17	-.0302	-3.82	-.0156	-2.10	-.0059	-.84	.0042	.63
.859	-.0803	-8.48	-.0642	-7.22	-.0413	-4.95	-.0268	-3.40	-.0184	-2.48	-.0071	-1.01
.905	-.0909	-9.11	-.0755	-8.06	-.0535	-6.08	-.0400	-4.83	-.0312	-3.99	-.0220	-2.98
.927	-.0953	-9.32	-.0785	-8.18	-.0583	-6.46	-.0446	-5.25	-.0360	-4.49	-.0264	-3.48
.950	-.0999	-9.53	-.0821	-8.35	-.0617	-6.67	-.0471	-5.41	-.0383	-4.66	-.0290	-3.73
.973	-.1027	-9.57	-.0858	-8.52	-.0648	-6.84	-.0497	-5.58	-.0407	-4.83	-.0313	-3.94
.996	-.1047	-9.53	-.0878	-8.52	-.0659	-6.80	-.0509	-5.58	-.0398	-4.62	-.0304	-3.73
1.018	-.0895	-7.97	-.0636	-6.04	-.0329	-3.32	-.0192	-2.06	-.0111	-1.26	-.0067	-.80
1.042	-.0106	-.92	-.0050	-.46	------	-----	.0012	.13	.0012	.13	.0025	.29
Rake 2												
0.324	-0.0087	-2.43	-0.0030	-0.88	0.0053	1.68	0.0102	3.44	0.0133	4.74	0.0162	6.13
.346	-.0053	-1.38	-.0003	-.08	.0076	2.27	.0125	3.94	.0156	5.20	.0184	6.50
.369	-.0015	-.38	.0037	.97	.0113	3.15	.0160	4.74	.0193	6.04	.0226	7.51
.392	.0003	.08	.0058	1.43	.0147	3.86	.0194	5.41	.0231	6.80	.0262	8.18
.415	-------	-----	-------	-----	------	-----	------	-----	------	-----	------	-----
.437	-.0016	-.34	.0053	1.17	.0164	3.86	.0222	5.54	.0263	6.97	.0306	8.56
.460	-.0032	-.63	.0046	.97	.0160	3.57	.0226	5.37	.0272	6.84	.0319	8.48
.483	-.0040	-.76	.0040	.80	.0164	3.48	.0234	5.29	.0282	6.76	.0335	8.48
.505	-.0058	-1.05	.0026	.50	.0161	3.27	.0237	5.12	.0288	6.59	.0341	8.27
.551	-.0102	-1.68	-.0014	-.25	.0135	2.52	.0220	4.36	.0284	5.96	.0348	7.72
.597	-.0136	-2.06	-.0026	-.42	.0137	2.35	.0227	4.15	.0297	5.75	.0366	7.51
.620	-.0172	-2.52	-.0056	-.88	.0119	1.97	.0215	3.78	.0284	5.29	.0357	7.05
.642	-.0211	-2.98	-.0092	-1.38	.0086	1.38	.0192	3.27	.0263	4.74	.0348	6.63
.666	-.0244	-3.32	-.0119	-1.72	.0071	1.09	.0169	2.77	.0249	4.32	.0331	6.08
.688	-.0306	-4.03	-.0177	-2.48	.0011	.17	.0122	1.93	.0212	3.57	.0295	5.25
.710	-.0368	-4.70	-.0240	-3.27	-.0035	-.50	.0085	1.30	.0168	2.73	.0258	4.45
.734	-.0432	-5.33	-.0299	-3.94	-.0084	-1.17	.0040	.59	.0123	1.93	.0214	3.57
.756	-.0497	-5.96	-.0348	-4.45	-.0136	-1.85	-.0006	-.08	.0077	1.17	.0179	2.90
.779	-.0555	-6.46	-.0416	-5.16	-.0197	-2.60	-.0069	-.97	.0026	.38	.0125	1.97
.825	-.0711	-7.81	-.0570	-6.67	-.0347	-4.32	-.0219	-2.90	-.0123	-1.72	-.0009	-.13
.871	-.0815	-8.48	-.0654	-7.26	-.0434	-5.12	-.0305	-3.82	-.0206	-2.73	-.0093	-1.30
.893	-.0868	-8.81	-.0710	-7.68	-.0496	-5.71	-.0367	-4.49	-.0279	-3.61	-.0181	-2.48
.916	-.0920	-9.11	-.0752	-7.93	-.0546	-6.13	-.0423	-5.04	-.0339	-4.28	-.0239	-3.19
.939	-.0956	-9.23	-.0795	-8.18	-.0579	-6.34	-.0465	-5.41	-.0375	-4.62	-.0274	-3.57
.962	-.0997	-9.40	-.0831	-8.35	-.0617	-6.59	-.0492	-5.58	-.0405	-4.87	-.0303	-3.86
.984	-.1025	-9.44	-.0864	-8.48	-.0642	-6.71	-.0515	-5.71	-.0429	-5.04	-.0330	-4.11
1.007	-.1016	-9.15	-.0836	-8.02	-.0605	-6.17	-.0465	-5.04	-.0369	-4.24	-.0290	-3.52
1.030	-.0324	-2.85	-.0192	-1.80	-.0088	-.88	-.0043	-.46	-.0019	-.21	-.0014	-.17

TABLE II.- Concluded

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 11.4^{\circ}$

[M = 0.151; p_t = 2,133 lb/sq ft; t_t = 89° F]

x	Rotational speed, rpm									
	1,850		1,900		1,950		2,000		2,100	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	0.0269	9.69	0.0293	11.16	0.0317	12.72	0.0366	15.44	0.0411	19.09
.380	.0309	10.49	.0331	11.88	.0356	13.43	.0404	16.07	.0453	19.85
.403	.0361	11.58	.0390	13.18	.0416	14.81	.0474	17.75	.0529	21.86
.426	.0389	11.79	.0421	13.47	.0451	15.19	.0522	18.51	.0583	22.79
.449	.0404	11.62	.0438	13.30	.0474	15.15	.0545	18.34	.0611	22.66
.471	.0422	11.58	.0460	13.30	.0495	15.07	.0576	18.46	.0647	22.87
.495	.0437	11.41	.0479	13.18	.0518	15.02	.0601	18.34	.0683	22.95
.517	.0457	11.41	.0500	13.18	.0546	15.15	.0632	18.46	.0689	22.16
.540	.0472	11.29	.0524	13.22	.0570	15.15	.0660	18.46	.0760	23.42
.585	.0470	10.37	.0530	12.34	.0575	14.10	.0673	17.37	.0773	21.99
.631	.0480	9.82	.0550	11.88	.0620	14.10	.0715	17.12	.0839	22.12
.654	.0474	9.36	.0542	11.29	.0599	13.13	.0718	16.58	.0840	21.36
.676	.0387	7.39	.0466	9.40	.0522	11.08	.0635	14.18	.0757	18.63
.700	.0423	7.81	.0500	9.74	.0567	11.62	.0692	14.94	.0837	19.89
.722	.0382	6.84	.0465	8.77	.0534	10.62	.0666	13.93	.0808	18.63
.745	.0332	5.75	.0422	7.72	.0490	9.44	.0631	12.80	.0782	17.46
.768	.0304	5.12	.0407	7.22	.0479	8.94	.0623	12.25	.0791	17.12
.791	.0252	4.11	.0351	6.04	.0428	7.76	.0573	10.95	.0748	15.74
.813	.0193	3.06	.0295	4.95	.0368	6.50	.0529	9.82	.0711	14.56
.859	.0075	1.13	.0172	2.73	.0261	4.36	.0420	7.39	.0620	12.00
.905	-.0103	-1.47	-.0025	-.38	.0045	.71	.0176	2.94	.0322	5.92
.927	-.0151	-2.10	-.0083	-1.22	-.0038	-.59	.0039	.63	.0098	1.76
.950	-.0182	-2.48	-.0111	-1.59	-.0072	-1.09	-.0016	-.25	.0019	.34
.973	-.0206	-2.73	-.0132	-1.85	-.0085	-1.26	-.0030	-.46	.0012	.21
.996	-.0197	-2.56	-.0116	-1.59	-.0076	-1.09	-.0022	-.34	.0013	.21
1.018	-.0036	-.46	-----	-----	.0003	.04	.0017	.25	.0026	.42
1.042	.0020	.25	.0038	.50	.0040	.55	.0034	.50	.0031	.50
Rake 2										
0.324	0.0213	8.48	0.0237	9.95	0.0261	11.54	0.0306	14.27	0.0353	18.13
.346	.0234	8.73	.0258	10.16	.0282	11.71	.0329	14.35	.0368	17.71
.369	.0276	9.65	.0298	10.99	.0329	12.80	.0375	15.36	.0421	18.97
.392	.0321	10.57	.0346	12.04	.0373	13.64	.0427	16.45	.0474	20.14
.415	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
.437	.0377	11.16	.0409	12.76	.0443	14.56	.0513	17.75	.0579	22.03
.460	.0396	11.12	.0431	12.76	.0468	14.56	.0541	17.75	.0612	22.12
.483	.0414	11.08	.0452	12.76	.0492	14.60	.0572	17.88	.0651	22.41
.505	.0430	10.99	.0470	12.67	.0514	14.60	.0598	17.88	.0685	22.58
.551	.0446	10.45	.0495	12.25	.0542	14.10	.0641	17.58	.0735	22.20
.597	.0475	10.28	.0528	12.04	.0583	14.02	.0695	17.58	.0805	22.45
.620	.0473	9.86	.0531	11.67	.0592	13.68	.0710	17.29	.0830	22.28
.642	.0467	9.40	.0524	11.12	.0590	13.18	.0715	16.83	.0840	21.78
.666	.0461	8.94	.0525	10.74	.0590	12.72	.0718	16.28	.0880	21.98
.688	.0429	8.06	.0496	9.82	.0562	11.71	.0700	15.36	.0829	20.06
.710	.0399	7.26	.0468	8.98	.0536	10.83	.0674	14.35	.0820	19.22
.734	.0365	6.42	.0441	8.18	.0571	10.11	.0656	13.51	.0813	18.42
.756	.0327	5.58	.0407	7.34	.0493	9.36	.0647	12.92	.0808	17.79
.779	.0283	4.70	.0369	6.46	.0458	8.43	.0615	11.92	.0774	16.53
.825	.0161	2.52	.0246	4.07	.0340	5.92	.0511	9.36	.0689	13.89
.871	.0068	1.01	.0145	2.27	.0242	3.99	.0423	7.34	.0617	11.79
.893	-.0038	-.55	.0044	.67	.0128	2.06	.0288	4.87	.0469	8.73
.916	-.0116	-1.64	-.0045	-.67	.0027	.42	.0145	2.39	.0233	4.24
.939	-.0158	-2.18	-.0095	-1.38	-.0039	-.59	.0024	.38	.0062	1.09
.962	-.0185	-2.48	-.0124	-1.76	-.0073	-1.09	-.0013	-.21	.0014	.25
.984	-.0208	-2.73	-.0142	-1.97	-.0089	-1.30	-.0025	-.38	.0012	.21
1.007	-.0164	-2.10	-.0106	-1.43	-.0062	-.88	-.0014	-.21	.0013	.21
1.030	.0003	.04	.0006	.08	.0018	.25	.0023	.34	.0021	.34

TABLE III

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 6.4^{\circ}$

[M = 0.145; p_t = 2,135 lb/sq ft; t_t = 83° F]

x	Rotational speed, rpm									
	700		800		900		1,000		1,100	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	-0.3540	-18.46	-0.2756	-18.76	-0.2153	-18.55	-0.1641	-17.46	-0.1287	-16.56
.380	-.3548	-17.42	-.2840	-18.21	-.2234	-18.13	-.1700	-17.04	-.1352	-16.39
.403	-.4115	-19.05	-.3137	-18.97	-.2407	-18.42	-.1816	-17.16	-.1434	-16.39
.426	-.4350	-19.05	-.3338	-19.09	-.2556	-18.51	-.1958	-17.50	-.1570	-16.98
.449	-.4585	-19.05	-.3595	-19.51	-.2809	-19.30	-.2192	-18.59	-.1790	-18.36
.471	-.4925	-19.51	-.3870	-20.02	-.3057	-20.02	-.2403	-19.43	-.1950	-19.07
.495	-.5434	-20.48	-.4238	-20.86	-.3348	-20.86	-.2645	-20.35	-.2140	-19.91
.517	-.5803	-20.94	-.4496	-21.19	-.3552	-21.19	-.2809	-20.69	-.2277	-20.29
.540	-.6159	-21.28	-.4818	-21.74	-.3850	-21.99	-.3070	-21.65	-.2437	-20.79
.585	-.6644	-21.19	-.5431	-22.62	-.4465	-23.54	-.3558	-23.16	-.2854	-22.47
.631	-.8161	-24.13	-.6477	-25.01	-.5090	-24.88	-.3929	-23.71	-.3130	-22.85
.654	-.8504	-24.26	-.6804	-25.35	-.5267	-24.84	-.4115	-23.96	-.3280	-23.10
.676	-.7906	-21.82	-.6636	-23.92	-.5380	-24.55	-.4321	-24.34	-.3477	-23.69
.700	-.9571	-25.51	-.7547	-26.27	-.5819	-25.64	-.4505	-24.51	-.3600	-23.69
.722	-.9810	-25.35	-.7722	-26.06	-.5992	-25.60	-.4662	-24.59	-.3738	-23.85
.745	-1.0003	-25.05	-.7904	-25.85	-.6111	-25.30	-.4777	-24.42	-.3885	-24.02
.768	-1.0625	-25.81	-.8214	-26.06	-.6322	-25.39	-.4985	-24.72	-.4040	-24.23
.791	-1.0799	-25.47	-.8392	-25.85	-.6403	-24.97	-.5091	-24.51	-.4175	-24.31
.813	-1.0899	-25.01	-.8472	-25.39	-.6492	-24.63	-.5233	-24.51	-.4321	-24.48
.859	-1.1322	-24.59	-.8817	-25.01	-.6790	-24.38	-.5576	-24.72	-.4629	-24.82
.905	-1.0929	-22.53	-.8602	-23.16	-.6933	-23.63	-.5863	-24.67	-.4892	-24.90
.927	-1.0678	-21.49	-.8491	-22.32	-.6960	-23.16	-.5925	-24.34	-.5003	-24.86
.950	-1.0342	-20.31	-.8297	-21.28	-.7044	-22.87	-.6092	-24.42	-.5136	-24.90
.973	-.9737	-18.67	-.7926	-19.85	-.6978	-22.12	-.6155	-24.09	-.5296	-25.07
.996	-.8963	-16.79	-.7223	-17.67	-.6694	-20.73	-.6167	-23.58	-.5367	-24.82
1.018	-.7808	-14.31	-.6225	-14.90	-.6287	-19.05	-.6079	-22.74	-.5466	-24.73
1.042	-.6350	-11.37	-.5239	-12.25	-.5642	-16.70	-.5752	-21.02	-.5481	-24.23
1.064	-.4186	-7.34	-.3629	-8.31	-.4515	-13.09	-.4750	-17.00	-.4814	-20.84
1.085	-.2222	-3.82	-.2169	-4.87	-.3113	-8.85	-.3191	-11.20	-.3239	-13.75
1.133	-.0279	-.46	-.0391	-.84	-.0834	-2.27	-.0699	-2.35	-.0578	-2.35
1.179	-.0373	-.59	.0387	.80	.0130	.34	.0170	.55	.0054	.21
1.201	.0541	.84	.0394	.80	.0164	.42	.0252	.80	.0110	.42
Rake 2										
0.324	-0.2900	-16.70	-0.2338	-17.58	-0.1917	-18.25	-0.1578	-18.55	-0.1313	-18.66
.346	-.3051	-16.45	-.2496	-17.58	-.2038	-18.17	-.1666	-18.34	-.1360	-18.11
.369	-.3436	-17.37	-.2726	-18.00	-.2194	-18.34	-.1773	-18.30	-.1408	-17.57
.392	-.3826	-18.21	-.3031	-18.84	-.2421	-19.05	-.1914	-18.59	-.1477	-17.36
.415	-------	------	-------	------	-------	------	-------	------	--------	------
.437	-.4324	-18.46	-.3492	-19.47	-.2801	-19.77	-.2142	-18.67	-.1651	-17.40
.460	-.4655	-18.88	-.3787	-20.06	-.3072	-20.60	-.2317	-19.18	-.1830	-18.32
.483	-.5064	-19.56	-.4101	-20.69	-.3285	-20.98	-.2501	-19.72	-.2022	-19.28
.505	-.5565	-20.56	-.4400	-21.23	-.3559	-21.74	-.2727	-20.56	-.2174	-19.83
.551	-.6246	-21.15	-.5020	-22.20	-.4109	-23.00	-.3193	-22.07	-.2542	-21.25
.597	-.7379	-23.08	-.5851	-23.88	-.4726	-24.42	-.3639	-23.21	-.2890	-22.30
.620	-.8172	-24.59	-.6384	-25.09	-.5077	-25.26	-.3901	-23.96	-.3076	-22.85
.642	-.8692	-25.26	-.6790	-25.77	-.5320	-25.56	-.4090	-24.26	-.3249	-23.31
.666	-.9064	-25.39	-.7134	-26.10	-.5508	-25.51	-.4257	-24.34	-.3401	-23.52
.688	-.9330	-25.30	-.7395	-26.19	-.5719	-25.64	-.4443	-24.59	-.3582	-23.98
.710	-.9822	-25.81	-.7728	-26.52	-.5932	-25.77	-.4624	-24.80	-.3723	-24.15
.734	-1.0351	-26.31	-.8052	-26.73	-.6151	-25.85	-.4765	-24.72	-.3867	-24.27
.756	-1.0698	-26.40	-.8216	-26.48	-.6294	-25.68	-.4898	-24.67	-.4011	-24.44
.779	-1.0898	-26.10	-.8411	-26.31	-.6402	-25.35	-.5057	-24.72	-.4140	-24.48
.825	-1.1466	-25.93	-.8823	-26.06	-.6700	-25.05	-.5390	-24.88	-.4476	-24.99
.871	-1.1676	-25.01	-.8836	-24.72	-.6862	-24.30	-.5654	-24.72	-.4733	-25.03
.893	-1.1411	-23.84	-.8829	-24.09	-.6948	-24.00	-.5757	-24.55	-.4876	-25.15
.916	-1.1371	-23.16	-.8849	-23.54	-.7127	-24.00	-.5965	-24.80	-.5017	-25.24
.939	-1.3051	-25.93	-.8621	-22.37	-.7194	-23.63	-.6044	-24.51	-.5145	-25.24
.962	-1.0235	-19.85	-.8366	-21.19	-.7289	-23.37	-.6245	-24.72	-.5305	-25.40
.984	-.9272	-17.58	-.7846	-19.43	-.7296	-22.87	-.6375	-24.67	-.5482	-25.66
1.007	-.8134	-15.07	-.7145	-17.29	-.7084	-21.70	-.6447	-24.38	-.5619	-25.70
1.030	-.6371	-11.54	-.5994	-14.18	-.6685	-20.02	-.6321	-23.37	-.5738	-25.66
1.052	-.4635	-8.22	-.4766	-11.04	-.5767	-16.91	-.5611	-20.31	-.5495	-24.06
1.097	-.1852	-3.15	-.2098	-4.66	-.2970	-8.35	-.2708	-9.40	-.2546	-10.69
1.145	-.0080	-.13	-.0197	-.42	-.0609	-1.64	-.0403	-1.34	-.0333	-1.34
1.167	.0156	.25	.0101	.21	.0049	.13	.0040	.13	-.0033	-.13
1.188	.0318	.50	.0307	.63	-.0015	-.04	.0066	.21	-.0010	-.04

TABLE III.- Continued

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 6.4^{\circ}$

[M = 0.145; p_t = 2,135 lb/sq ft; t_t = 83° F]

x	Rotational speed, rpm									
	1,230		1,300		1,400		1,500		1,600	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	-0.0925	-14.88	-0.0728	-13.12	-0.0575	-12.03	-0.0400	-9.60	-0.0267	-7.29
.380	-.0960	-14.54	-.0762	-12.95	-.0598	-11.78	-.0411	-9.31	-.0273	-7.04
.403	-.1038	-14.84	-.0835	-13.37	-.0666	-12.37	-.0462	-9.85	-.0306	-7.42
.426	-.1181	-15.97	-.0952	-14.42	-.0758	-13.33	-.0532	-10.73	-.0356	-8.17
.449	-.1333	-17.10	-.1073	-15.43	-.0852	-14.21	-.0604	-11.57	-.0412	-8.97
.471	-.1453	-17.77	-.1172	-16.06	-.0944	-15.01	-.0668	-12.20	-.0450	-9.35
.495	-.1585	-18.44	-.1292	-16.85	-.1034	-15.64	-.0741	-12.87	-.0516	-10.19
.517	-.1667	-18.57	-.1366	-17.06	-.1097	-15.89	-.0794	-13.21	-.0556	-10.52
.540	-.1819	-19.41	-.1476	-17.65	-.1176	-16.31	-.0869	-13.83	-.0618	-11.19
.585	-.2099	-20.67	-.1717	-18.95	-.1388	-17.77	-.1058	-15.55	-.0777	-13.00
.631	-.2331	-21.29	-.1918	-19.62	-.1554	-18.45	-.1212	-16.52	-.0905	-14.04
.654	-.2441	-21.50	-.2042	-20.16	-.1665	-19.07	-.1307	-17.19	-.0989	-14.80
.676	-.2606	-22.21	-.2208	-21.09	-.1812	-20.08	-.1451	-18.45	-.1132	-16.39
.700	-.2729	-22.46	-.2318	-21.38	-.1892	-20.25	-.1509	-18.53	-.1175	-16.43
.722	-.2868	-22.88	-.2453	-21.93	-.2024	-21.00	-.1398	-19.33	-.1265	-17.15
.745	-.3040	-23.51	-.2608	-22.60	-.2147	-21.59	-.1740	-20.08	-.1373	-18.03
.768	-.3196	-23.97	-.2743	-23.06	-.2282	-22.26	-.1843	-20.63	-.1471	-18.74
.791	-.3338	-24.31	-.2882	-23.52	-.2421	-22.93	-.1963	-21.34	-.1566	-19.37
.813	-.3502	-24.81	-.3020	-23.98	-.2543	-23.43	-.2074	-21.93	-.1672	-20.12
.859	-.3802	-25.49	-.3303	-24.82	-.2794	-24.36	-.2291	-22.93	-.1877	-21.38
.905	-.4050	-25.78	-.3561	-25.40	-.3019	-24.99	-.2506	-23.81	-.2063	-22.30
.927	-.4156	-25.82	-.3685	-25.66	-.3124	-25.24	-.2594	-24.06	-.2133	-22.51
.950	-.4300	-26.07	-.3813	-25.91	-.3228	-25.45	-.2696	-24.40	-.2210	-22.76
.973	-.4439	-26.28	-.3923	-26.03	-.3316	-25.53	-.2770	-24.48	-.2280	-22.93
.996	-.4580	-26.49	-.4042	-26.20	-.3412	-25.66	-.2840	-24.52	-.2347	-23.06
1.018	-.4739	-26.82	-.4185	-26.54	-.3521	-25.91	-.2939	-24.82	-.2407	-23.14
1.042	-.4798	-26.53	-.4318	-26.75	-.3650	-26.24	-.3068	-25.32	-.2531	-23.77
1.064	-.4289	-23.22	-.3896	-23.64	-.1866	-23.14	-.2511	-20.29	-.1718	-15.80
1.085	-.2541	-13.49	-.1973	-11.74	-.1451	-10.02	-.0782	-6.20	-.0377	-3.40
1.133	-.0356	-1.81	-.0205	-1.17	-.0089	-.59	-.0017	-.13	.0024	.21
1.179	-.0027	-.13	.0053	.29	.0054	.34	.0069	.50	.0076	.63
Rake 2										
0.324	-0.1023	-18.19	-0.0823	-16.39	-0.0651	-15.05	-0.0479	-12.70	-0.0334	-10.10
.346	-.0990	-16.47	-.0771	-14.38	-.0612	-13.25	-.0439	-10.90	-.0302	-8.55
.369	-.0983	-15.34	-.0760	-13.29	-.0593	-12.03	-.0412	-9.60	-.0273	-7.25
.392	-.1028	-15.09	-.0805	-13.25	-.0634	-12.12	-.0439	-9.64	-.0289	-7.21
.415	-------	------	-------	------	-------	------	-------	------	-------	------
.437	-.1227	-16.18	-.1021	-15.09	-.0810	-13.88	-.0581	-11.44	-.0397	-8.89
.460	-.1385	-17.35	-.1129	-15.85	-.0888	-14.46	-.0646	-12.07	-.0453	-9.64
.483	-.1505	-17.94	-.1229	-16.43	-.0970	-15.05	-.0713	-12.70	-.0493	-9.98
.505	-.1639	-18.69	-.1335	-17.06	-.1071	-15.89	-.0776	-13.21	-.0550	-10.65
.551	-.1897	-19.83	-.1557	-18.24	-.1255	-17.06	-.0932	-14.55	-.0692	-12.28
.597	-.2168	-20.92	-.1772	-19.16	-.1410	-17.69	-.1077	-15.51	-.0800	-13.12
.620	-.2302	-21.38	-.1888	-19.66	-.1523	-18.40	-.1170	-16.22	-.0887	-14.00
.642	-.2429	-21.79	-.2001	-20.12	-.1634	-19.07	-.1255	-16.81	-.0968	-14.76
.666	-.2535	-21.92	-.2115	-20.50	-.1737	-19.54	-.1354	-17.48	-.1050	-15.43
.688	-.2687	-22.50	-.2252	-21.13	-.1883	-20.50	-.1466	-18.32	-.1152	-16.39
.710	-.2805	-22.76	-.2389	-21.72	-.1983	-20.92	-.1575	-19.07	-.1241	-17.10
.734	-.2953	-23.18	-.2535	-22.30	-.2099	-21.42	-.1678	-19.66	-.1340	-17.86
.756	-.3130	-23.85	-.2671	-22.81	-.2221	-22.01	-.1780	-20.25	-.1445	-18.70
.779	-.3288	-24.31	-.2802	-23.22	-.2363	-22.72	-.2100	-23.18	-.1562	-19.62
.825	-.3607	-25.19	-.3113	-24.36	-.2646	-24.02	-.2160	-22.51	-.1764	-20.92
.871	-.3897	-25.78	-.3365	-24.94	-.2866	-24.65	-.2340	-23.10	-.1929	-21.67
.893	-.3984	-25.70	-.3491	-25.24	-.2964	-24.86	-.2443	-23.52	-.2016	-22.09
.916	-.4127	-25.95	-.3617	-25.49	-.3101	-25.36	-.2532	-23.77	-.2111	-22.55
.939	-.4250	-26.07	-.3732	-25.66	-.3179	-25.36	-.2627	-24.06	-.2193	-22.85
.962	-.4382	-26.24	-.3855	-25.87	-.3268	-25.45	-.2711	-24.23	-.2247	-22.85
.984	-.4533	-26.53	-.3993	-26.20	-.3376	-25.70	-.2777	-24.27	-.2315	-23.02
1.007	-.4682	-26.78	-.4113	-26.37	-.3494	-25.99	-.2853	-24.36	-.2373	-23.06
1.030	-.4847	-27.11	-.4247	-26.62	-.3603	-26.20	-.2918	-24.36	-.2427	-23.06
1.052	-.4807	-26.32	-.4235	-25.99	-.3615	-25.74	-.2898	-23.69	-.2294	-21.34
1.097	-.1861	-9.77	-.1189	-7.00	-.0810	-5.53	-.0401	-3.14	-.0221	-1.97
1.145	-.0217	-1.09	-.0096	-.54	-.0052	-.34	.0028	.21	.0029	.25
1.167	-.0059	-.29	0	0	-.0006	-.04	.0023	.17	.0010	.08
1.188	-------	------	-------	------	.0021	.13	.0058	.42	.0025	.21

TABLE III.- Concluded

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 6.4^\circ$

[M = 0.145; p_t = 2,135 lb/sq ft; t_t = 83° F]

x	Rotational speed, rpm									
	1,700		1,800		1,900		2,000		2,100	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	-0.0158	-4.86	-0.0074	-2.56	-0.0017	-0.67	0.0052	2.26	0.0109	5.11
.380	-.0150	-4.36	-.0064	-2.10	-.0006	-.21	.0066	2.64	.0125	5.53
.403	-.0167	-4.57	-.0077	-2.35	-.0004	-.13	.0084	3.19	.0154	6.41
.426	-.0204	-5.28	-.0103	-2.98	-.0026	-.84	.0077	2.77	.0150	5.91
.449	-.0251	-6.16	-.0138	-3.81	-.0052	-1.59	.0052	1.76	.0135	5.03
.471	-.0282	-6.62	-.0155	-4.07	-.0072	-2.10	.0039	1.26	.0126	4.49
.495	-.0329	-7.34	-.0200	-4.99	-.0098	-2.72	.0020	.63	.0114	3.86
.517	-.0365	-7.80	-.0228	-5.45	-.0123	-3.27	.0004	.13	.0106	3.44
.540	-.0414	-8.47	-.0274	-6.29	-.0157	-4.02	-.0024	-.67	.0086	2.68
.585	-.0544	-10.27	-.0382	-8.09	-.0256	-6.04	-.0109	-2.85	.0009	.25
.631	-.0652	-11.40	-.0477	-9.35	-.0332	-7.25	-.0166	-4.02	-.0033	-.88
.654	-.0731	-12.33	-.0547	-10.35	-.0395	-8.34	-.0219	-5.11	-.0074	-1.89
.676	-.0865	-14.13	-.0659	-12.07	-.0499	-10.19	-.0334	-7.55	-.0177	-4.40
.700	-.0899	-14.17	-.0697	-12.33	-.0515	-10.15	-.0336	-7.34	-.0175	-4.19
.722	-.0982	-15.01	-.0778	-13.33	-.0599	-11.44	-.0416	-8.80	-.0251	-5.83
.745	-.1087	-16.10	-.0876	-14.55	-.0695	-12.87	-.0496	-10.19	-.0320	-7.21
.768	-.1172	-16.85	-.0952	-15.34	-.0758	-13.62	-.0547	-10.90	-.0372	-8.13
.791	-.1265	-17.65	-.1034	-16.18	-.0822	-14.34	-.0633	-12.24	-.0451	-9.56
.813	-.1349	-18.32	-.1115	-16.98	-.0899	-15.26	-.0711	-13.37	-.0514	-10.61
.859	-.1521	-19.54	-.1286	-18.53	-.1060	-17.02	-.0829	-14.76	-.0637	-12.45
.905	-.1692	-20.63	-.1422	-19.45	-.1197	-18.24	-.0955	-16.14	-.0757	-14.04
.927	-.1754	-20.88	-.1482	-19.79	-.1243	-18.49	-.1002	-16.52	-.0799	-14.46
.950	-.1826	-21.21	-.1538	-20.04	-.1282	-18.61	-.1031	-16.60	-.0838	-14.80
.973	-.1870	-21.21	-.1576	-20.04	-.1325	-18.78	-.1065	-16.73	-.0863	-14.88
.996	-.1936	-21.46	-.1626	-20.21	-.1356	-18.78	-.1098	-16.85	-.0893	-15.05
1.018	-.1965	-21.30	-.1652	-20.08	-.1389	-18.82	-.1164	-17.48	-.0967	-15.93
1.042	-.2098	-22.22	-.1729	-20.54	-.1381	-18.28	-.0737	-10.82	-.0315	-5.07
1.064	-.0857	-8.89	-.0444	-5.16	-.0226	-2.93	-.0067	-.96	.0003	.04
1.085	-.0190	-1.93	-.0103	-1.17	-.0027	-.34	.0012	.17	.0048	.75
1.133	.0017	.17	.0019	.21	.0041	.50	.0037	.50	.0051	.75
1.179	.0041	.38	------	------	------	------	------	------	------	------
Rake 2										
0.324	-0.0209	-7.13	-0.0121	-4.61	-0.0062	-2.64	0.0013	0.63	0.0070	3.65
.346	-.0189	-6.04	-.0110	-3.94	-.0050	-2.01	.0022	.96	.0080	3.90
.369	-.0157	-4.70	-.0072	-2.43	-.0020	-.75	.0049	2.05	.0106	4.82
.392	-.0155	-4.36	-.0073	-2.31	-.0010	-.34	.0066	2.56	.0132	5.66
.415	-------	------	-------	------	-------	------	-------	------	-------	------
.437	-.0231	-5.83	-.0130	-3.69	-.0049	-1.55	.0047	1.63	.0124	4.78
.460	-.0276	-6.62	-.0165	-4.44	-.0077	-2.31	.0029	.96	.0117	4.28
.483	-.0319	-7.29	-.0191	-4.90	-.0097	-2.77	.0017	.54	.0110	3.81
.505	-.0361	-7.88	-.0231	-5.66	-.0124	-3.40	-.0008	-.25	.0097	3.23
.551	-.0467	-9.35	-.0323	-7.25	-.0208	-5.20	-.0068	-1.89	.0054	1.63
.597	-.0567	-10.48	-.0409	-8.47	-.0274	-6.33	-.0119	-3.06	.0012	.34
.620	-.0638	-11.36	-.0464	-9.26	-.0318	-7.08	-.0163	-4.02	-.0020	-.54
.642	-.0717	-12.33	-.0537	-10.35	-.0380	-8.17	-.0210	-4.99	-.0066	-1.72
.666	-.0781	-12.95	-.0598	-11.11	-.0443	-9.18	-.0259	-5.95	-.0103	-2.60
.688	-.0883	-14.17	-.0688	-12.37	-.0512	-10.27	-.0326	-7.25	-.0162	-3.94
.710	-.0960	-14.92	-.0767	-13.37	-.0585	-11.36	-.0391	-8.43	-.0240	-5.66
.734	-.1057	-15.89	-.0853	-14.38	-.0665	-12.49	-.0463	-9.64	-.0301	-6.88
.756	-.1146	-16.73	-.0932	-15.26	-.0736	-13.42	-.0525	-10.61	-.0355	-7.88
.779	-.1249	-17.69	-.1016	-16.14	-.0819	-14.51	-.0596	-11.70	-.0422	-9.10
.825	-.1438	-19.24	-.1202	-18.03	-.0978	-16.35	-.0762	-14.13	-.0567	-11.53
.871	-.1601	-20.29	-.1336	-18.99	-.1099	-17.40	-.0848	-14.88	-.0657	-12.66
.893	-.1672	-20.67	-.1410	-19.54	-.1164	-17.98	-.0916	-15.68	-.0714	-13.42
.916	-.1736	-20.92	-.1471	-19.91	-.1214	-18.28	-.0959	-16.01	-.0766	-14.04
.939	-.1801	-21.17	-.1527	-20.12	-.1267	-18.61	-.1218	-19.83	-.0805	-14.38
.962	-.1860	-21.34	-.1577	-20.29	-.1310	-18.78	-.1042	-16.56	-.0837	-14.59
.984	-.1921	-21.55	-.1620	-20.37	-.1337	-18.74	-.1071	-16.64	-.0863	-14.71
1.007	-.1973	-21.63	-.1665	-20.46	-.1371	-18.78	-.1104	-16.77	-.0886	-14.76
1.030	-.2018	-21.63	-.1720	-20.67	-.1437	-19.24	-.1141	-16.94	-.0795	-12.95
1.052	-.1451	-15.22	-.0876	-10.31	-.0537	-7.04	-.0182	-2.64	-.0021	-.34
1.097	-.0095	-.96	-.0066	-.75	-.0003	-.04	------	------	.0027	.42
1.145	.0013	.13	-------	------	.0032	.38	.0022	.29	.0051	.75
1.167	.0008	.08	-.0008	-.08	.0007	.08	-.0006	-.08	.0015	.21
1.188	.0018	.17	------	------	------	------	------	------	------	------

TABLE IV

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = 1.4^{\circ}$

[M = 0.147; p_t = 2,133 lb/sq ft; t_t = 83° F]

x	Rotational speed, rpm									
	300		400		500		550		590	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	-0.9419	-9.06	-0.7801	-13.34	-0.9369	-25.01	-0.7410	-23.79	-0.6683	-24.84
.380	-.9766	-8.85	-.7921	-12.76	-.9829	-24.72	-.8187	-24.76	-.7393	-25.89
.403	-1.0755	-9.19	-.9091	-13.81	-1.1026	-27.57	-.9299	-26.52	-.8338	-27.53
.426	-1.1418	-9.23	-.9464	-13.60	-1.2120	-27.19	-.9923	-26.77	-.8839	-27.61
.449	-1.2426	-9.53	-.9850	-13.43	-1.2577	-26.77	-1.0755	-27.53	-.9600	-28.45
.471	-1.3377	-9.78	-1.0364	-13.47	-1.3031	-26.44	-1.1282	-27.53	-1.0070	-28.45
.495	-1.5324	-10.66	-1.1264	-13.93	-1.3887	-26.81	-1.2271	-28.49	-1.1067	-29.75
.517	-1.6005	-10.66	-1.1874	-14.06	-1.4233	-26.31	-1.2344	-27.44	-1.1283	-29.04
.540	-1.7234	-10.99	-1.2623	-14.31	-1.4703	-26.02	-1.3053	-27.78	-1.1988	-29.54
.585	-2.1388	-12.59	-1.4439	-15.11	-1.5206	-24.84	-1.4013	-27.53	-1.3246	-30.13
.631	-2.3913	-13.05	-1.6049	-15.57	-1.5906	-24.09	-1.4720	-26.81	-1.4169	-29.88
.654	-2.4861	-13.09	-1.6537	-15.48	-1.5596	-22.79	-1.4687	-25.81	-1.4253	-29.00
.676	-2.3636	-12.04	-1.6266	-14.73	-1.4543	-20.56	-1.4316	-24.34	-1.3620	-26.81
.700	-2.6955	-13.26	-1.7758	-15.53	-1.5280	-20.86	-1.5129	-24.84	-1.4924	-28.37
.722	-2.6754	-12.76	-1.7868	-15.15	-1.4392	-19.05	-1.4656	-23.33	-1.4617	-26.94
.745	-2.6611	-12.30	-1.7670	-14.52	-1.3541	-17.37	-1.3956	-21.53	-1.4428	-25.77
.768	-2.6674	-11.96	-1.7375	-13.85	-1.2714	-15.82	-1.3659	-20.44	-1.4556	-25.22
.791	-2.5543	-11.12	-1.6694	-12.92	-1.1844	-14.31	-1.2967	-18.84	-1.4017	-23.58
.813	-2.2594	-9.57	-1.5153	-11.41	-1.0745	-12.63	-1.1934	-16.87	-1.3282	-21.74
.859	-1.9881	-7.97	-1.3855	-9.86	-1.0148	-11.29	-1.0852	-14.52	-1.2188	-18.88
.905	-1.3903	-5.29	-1.0230	-6.92	-.9138	-9.65	-.9252	-11.75	-1.0045	-14.77
.927	-1.2195	-4.53	-.9343	-6.17	-.8914	-9.19	-.8832	-10.95	-.9328	-13.39
.950	-1.0870	-3.94	-.8209	-5.29	-.8589	-8.64	-.8291	-10.03	-.8746	-12.25
.973	-.9381	-3.32	-.7200	-4.53	-.8033	-7.89	-.7814	-9.23	-.8255	-11.29
.996	-.7781	-2.69	-.6150	-3.78	-.6993	-6.71	-.6950	-8.02	-.7163	-9.57
1.018	-.6711	-2.27	-.5587	-3.36	-.6125	-5.75	-.6280	-7.09	-.6419	-8.39
1.042	-.4690	-1.55	-.4647	-2.73	-.5397	-4.95	-.5476	-6.04	-.5654	-7.22
1.064	-.2997	-.97	-.4154	-2.39	-.4620	-4.15	-.4703	-5.08	-.4630	-5.79
1.085	-.1575	-.50	-.3492	-1.97	-.4053	-3.57	-.4163	-4.41	-.3832	-4.70
1.133	.0823	.25	-.2332	-1.26	-.2940	-2.48	-.3105	-3.15	-.2469	-2.90
1.179	.3013	.88	-.1136	-.59	-.1197	-.97	-.1549	-1.51	-.1037	-1.17
1.201	.3802	1.09	-.0902	-.46	-.1106	-.88	-.1275	-1.22	-.0830	-.92
1.223	.4617	1.30	-.0579	-.29	-.0704	-.55	-.0956	-.88	-.0386	-.42
1.247	.4708	1.30	-.0428	-.21	-.0496	-.38	-.0770	-.71	-.0075	-.08
1.269	.5270	1.43	-.0166	-.08	-.0226	-.17	-.0740	-.67	-.0076	-.08
Rake 2										
0.324	-0.9117	-9.69	-0.7330	-13.85	-0.7228	-21.32	-0.5762	-20.44	-0.4965	-20.39
.346	-.8943	-8.90	-.7431	-13.13	-.8099	-22.37	-.6720	-22.32	-.5837	-22.45
.369	-.9708	-9.06	-.8071	-13.39	-.9348	-24.21	-.7638	-23.79	-.6761	-24.38
.392	-1.0655	-9.36	-.8920	-13.93	-1.0808	-26.35	-.8773	-25.72	-.7839	-26.61
.415	-------	------	-------	------	-------	------	-------	------	-------	------
.437	-1.1713	-9.23	-.9737	-13.64	-1.1857	-25.93	-1.0038	-26.40	-.8998	-27.40
.460	-1.2450	-9.32	-1.0061	-13.39	-1.2279	-25.51	-1.0799	-26.98	-.9704	-28.07
.483	-1.3185	-9.40	-1.0564	-13.39	-1.2767	-25.26	-1.1393	-27.11	-1.0327	-28.45
.505	-1.4401	-9.82	-1.1318	-13.72	-1.3549	-25.64	-1.2171	-27.70	-1.1116	-29.29
.551	-1.7585	-10.99	-1.2655	-14.06	-1.4495	-25.14	-1.3457	-28.07	-1.2406	-29.96
.597	-2.0145	-11.62	-1.4238	-14.60	-1.5255	-24.42	-1.4342	-27.61	-1.3293	-29.63
.620	-2.1984	-12.21	-1.5556	-15.36	-1.5927	-24.55	-1.5170	-28.12	-1.4118	-30.30
.642	-2.3155	-12.42	-1.6066	-15.32	-1.5901	-23.67	-1.5473	-27.70	-1.4498	-30.05
.666	-2.3866	-12.34	-1.6340	-15.02	-1.5527	-22.28	-1.5368	-26.52	-1.4534	-29.04
.688	-2.4395	-12.21	-1.6700	-14.86	-1.5169	-21.07	-1.5199	-25.39	-1.4513	-28.07
.710	-2.5258	-12.25	-1.7176	-14.81	-1.4688	-19.77	-1.5117	-24.47	-1.4668	-27.49
.734	-2.6026	-12.21	-1.7409	-14.52	-1.3986	-18.21	-1.5059	-23.58	-1.4866	-26.95
.756	-2.6433	-12.04	-1.7412	-14.10	-1.3282	-16.79	-1.4577	-22.16	-1.4902	-26.23
.779	-2.6400	-11.67	-1.7191	-13.51	-1.2488	-15.32	-1.3909	-20.52	-1.4594	-24.93
.825	-2.6833	-11.20	-1.7021	-12.63	-1.1447	-13.26	-1.2591	-17.54	-1.3714	-22.12
.871	-2.4839	-9.82	-1.5039	-10.57	-1.0481	-11.50	-1.1194	-14.77	-1.2495	-19.09
.893	-2.3184	-8.94	-1.4325	-9.82	-1.0232	-10.95	-1.0272	-13.22	-1.1180	-16.66
.916	-2.2877	-8.60	-1.3556	-9.06	-1.0381	-10.83	-.9971	-12.51	-1.0656	-15.48
.939	-2.1297	-7.81	-1.3130	-8.56	-1.0062	-10.24	-.9461	-11.58	-.9653	-13.68
.962	-2.0058	-7.18	-1.2131	-7.72	-.9503	-9.44	-.8990	-10.74	-.8892	-12.30
.984	-1.9431	-6.80	-1.1605	-7.22	-.8855	-8.60	-.8519	-9.95	-.8068	-10.91
1.007	-1.8891	-6.46	-1.1465	-6.97	-.8398	-7.97	-.7868	-8.98	-.7431	-9.82
1.030	-1.7947	-6.00	-1.0583	-6.29	-.7329	-6.80	-.6919	-7.72	-.6401	-8.27
1.052	-1.7444	-5.71	-1.0672	-6.21	-.6924	-6.29	-.6261	-6.84	-.5510	-6.97
1.097	-1.5642	-4.91	-1.0447	-5.83	-.5728	-4.99	-.5164	-5.41	-.5342	-4.87
1.145	-.8080	-2.43	-.7294	-3.90	-.3367	-2.81	-.3178	-3.19	-.1988	-2.31
1.167	-------	------	-------	------	-------	------	-------	------	-------	------
1.188	-.3760	-1.09	-.5705	-2.94	-.2401	-2.10	-.2646	-2.56	-.1161	-1.30
1.213	-.2360	-.67	-.4736	-2.39	-.2082	-1.64	-.2079	-1.97	-.0729	-.80
1.239	-.0468	-.13	-.3744	-1.85	-.1465	-1.13	-.1897	-1.76	-.0446	-.50
1.257	.1241	.34	-.2751	-1.34	-.0881	-.67	-.1378	-1.26	-.0161	-.17

TABLE V

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = -3.6^\circ$

[M = 0.145; p_t = 2,134 lb/sq ft; t_t = 93° F]

x	Rotational speed, rpm											
	300		400		450		500		550		600	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1												
0.358	-0.8680	-8.18	-0.8087	-13.55	-0.8853	-18.77	-0.8946	-23.42	-0.8372	-26.52	-0.7157	-26.98
.380	-.8413	-7.47	-.8059	-12.72	-.9367	-18.72	-.9443	-23.29	-.8984	-26.81	-.7597	-26.98
.403	-.9520	-7.97	-.9386	-13.97	-1.0500	-19.77	-1.0991	-25.56	-1.0455	-29.42	-.8947	-29.96
.426	-1.0013	-7.93	-.9773	-13.76	-1.1066	-19.73	-1.1577	-25.47	-1.1112	-29.58	-.9618	-30.47
.449	-1.0447	-7.85	-1.0053	-13.43	-1.1870	-20.07	-1.2145	-25.35	-1.1712	-29.58	-1.0108	-30.38
.471	-1.1657	-8.35	-1.0640	-13.55	-1.2397	-19.98	-1.2674	-25.22	-1.2198	-29.37	-1.0648	-30.51
.495	-1.3175	-8.98	-1.1529	-13.97	-1.3464	-20.65	-1.3632	-25.81	-1.3169	-30.17	-1.1514	-31.39
.517	-1.4527	-9.48	-1.2222	-14.18	-1.3701	-20.11	-1.4050	-25.47	-1.3412	-29.42	-1.2010	-31.35
.540	-1.6725	-10.45	-1.2955	-14.39	-1.4281	-20.07	-1.4652	-25.43	-1.4009	-29.42	-1.2660	-31.64
.585	-1.9350	-11.16	-1.4240	-14.60	-1.6072	-20.86	-1.5636	-25.05	-1.4764	-28.62	-1.3208	-30.47
.631	-2.3864	-12.76	-1.6159	-15.36	-1.7060	-20.52	-1.6502	-24.51	-1.5413	-27.70	-1.4247	-30.47
.654	-2.4656	-12.72	-1.6748	-15.36	-1.7390	-20.19	-1.6601	-23.79	-1.5415	-26.73	-1.4214	-29.33
.676	-2.2200	-11.08	-1.5699	-13.93	-1.8312	-20.56	-1.6647	-23.08	-1.5111	-25.35	-1.2909	-25.77
.700	-2.7428	-13.22	-1.8217	-15.61	-1.8615	-20.19	-1.7268	-23.12	-1.5777	-25.56	-1.4913	-28.75
.722	-2.7562	-12.88	-1.8381	-15.27	-1.8654	-19.61	-1.6971	-22.03	-1.5280	-24.00	-1.4525	-27.15
.745	-2.7160	-12.30	-1.8246	-14.69	-1.8575	-18.93	-1.6375	-20.60	-1.4584	-22.20	-1.4061	-25.47
.768	-2.8180	-12.38	-1.8592	-14.52	-1.8470	-18.26	-1.5988	-19.51	-1.4208	-20.98	-1.4091	-24.76
.791	-2.7055	-11.54	-1.8093	-13.72	-1.7969	-17.25	-1.5268	-18.09	-1.3350	-19.14	-1.3528	-23.08
.813	-2.4675	-10.24	-1.6834	-12.42	-1.6863	-15.75	-1.4305	-16.49	-1.2395	-17.29	-1.2693	-21.07
.859	-2.2532	-8.85	-1.6412	-11.46	-1.6112	-14.24	-1.3189	-14.39	-1.1157	-14.73	-1.1833	-18.59
.905	-1.5987	-5.96	-1.2478	-8.27	-1.2937	-10.85	-1.1346	-11.75	-.9712	-12.17	-.9878	-14.73
.927	-1.3957	-5.08	-1.1220	-7.26	-1.1804	-9.67	-1.0544	-10.66	-.9155	-11.20	-.9163	-13.34
.950	-1.2164	-4.32	-.9630	-6.08	-1.0487	-8.38	-.9822	-9.69	-.8721	-10.41	-.8595	-12.21
.973	-1.0757	-3.73	-.8516	-5.25	-.9564	-7.46	-.8928	-8.60	-.8065	-9.40	-.8046	-11.16
.996	-.8915	-3.02	-.7240	-4.36	-.8682	-6.62	-.7981	-7.51	-.7369	-8.39	-.7218	-9.78
1.018	-.7845	-2.60	-.6483	-3.82	-.7746	-5.78	-.7288	-6.71	-.6670	-7.43	-.6646	-8.81
1.042	-.5961	-1.93	-.5542	-3.19	-.6851	-4.99	-.6626	-5.96	-.6055	-6.59	-.5930	-7.68
1.064	-.5172	-1.64	-.4843	-2.73	-.5929	-4.23	-.6020	-5.20	-.5395	-5.75	-.5164	-6.55
1.085	-.4052	-1.26	-.4251	-2.35	-.5332	-3.73	-.5291	-4.57	-.4822	-5.04	-.4526	-5.63
1.133	-.2955	-.88	-.3325	-1.76	-.4567	-3.06	-.4763	-3.94	-.4146	-4.15	-.3526	-4.20
1.179	-.1607	-.46	-.1730	-.88	-.2796	-1.80	-.3384	-2.69	-.2620	-2.52	-.2306	-2.64
1.201	-.0890	-.25	-.1522	-.76	-.2658	-1.68	-.2960	-2.31	-.2266	-2.14	-.1869	-2.10
1.223	.0145	.04	-.1366	-.67	-.2240	-1.39	-.2466	-1.89	-.1941	-1.80	-.1595	-1.76
1.247	-.0148	-.04	-.0790	-.38	-.1659	-1.01	-.2182	-1.64	-.1616	-1.47	-.1201	-1.30
1.269	.0301	.08	-.0529	-.25	-.1337	-.80	-.1814	-1.34	-.1410	-1.26	-.1185	-1.26
Rake 2												
0.324	-0.9229	-9.61	-0.7616	-14.10	-0.7918	-18.56	-0.7412	-21.44	-0.6714	-23.50	-0.5500	-22.91
.346	-.8604	-8.39	-.7430	-12.88	-.8484	-18.60	-.8104	-21.95	-.7515	-24.63	-.6143	-23.96
.369	-.9088	-8.31	-.8108	-13.18	-.9261	-19.06	-.9170	-23.29	-.8616	-26.48	-.7161	-26.19
.392	-.9748	-8.39	-.8914	-13.64	-1.0236	-19.82	-1.0494	-25.09	-.9834	-28.45	-.8290	-28.54
.415	-------	------	-------	------	-------	------	-------	------	-------	------	-------	------
.437	-1.0491	-8.10	-.9603	-13.18	-1.1382	-19.77	-1.1624	-24.93	-1.1125	-28.87	-.9498	-29.33
.460	-1.0866	-7.97	-.9786	-12.76	-1.2054	-19.90	-1.2315	-25.09	-1.1796	-29.08	-1.0069	-29.54
.483	-1.1596	-8.10	-1.0444	-12.97	-1.2660	-19.90	-1.2930	-25.09	-1.2334	-28.96	-1.0737	-30.00
.505	-1.3067	-8.73	-1.1307	-13.43	-1.3438	-20.19	-1.3681	-25.39	-1.3025	-29.25	-1.1526	-30.80
.551	-1.5285	-9.69	-1.2567	-13.68	-1.4953	-20.60	-1.4827	-25.22	-1.4231	-29.29	-1.2628	-30.93
.597	-1.9163	-10.83	-1.4532	-14.60	-1.5822	-20.11	-1.5823	-24.84	-1.5088	-28.66	-1.3718	-31.01
.620	-2.1519	-11.71	-1.5960	-15.44	-1.6995	-20.81	-1.6770	-25.35	-1.5877	-29.04	-1.4573	-31.72
.642	-2.2682	-11.92	-1.6665	-15.57	-1.7429	-20.60	-1.7043	-24.88	-1.6083	-28.41	-1.4871	-31.26
.666	-2.3609	-11.96	-1.7055	-15.36	-1.7680	-20.15	-1.7055	-24.00	-1.5945	-27.15	-1.4850	-30.09
.688	-2.4042	-11.79	-1.7286	-15.07	-1.8141	-20.02	-1.7068	-23.25	-1.5786	-26.02	-1.4657	-28.75
.710	-2.5168	-11.96	-1.7933	-15.15	-1.8259	-19.52	-1.7136	-22.62	-1.5683	-25.05	-1.4836	-28.20
.734	-2.6476	-12.17	-1.8442	-15.07	-1.8470	-19.10	-1.6956	-21.65	-1.5398	-23.79	-1.5109	-27.78
.756	-2.7650	-12.34	-1.8830	-14.94	-1.8351	-18.43	-1.6520	-20.48	-1.4879	-22.32	-1.4856	-26.52
.779	-2.8007	-12.13	-1.8637	-14.35	-1.7969	-17.51	-1.5909	-19.14	-1.4185	-20.65	-1.4558	-25.22
.825	-2.8829	-11.79	-1.9050	-13.85	-1.7851	-16.42	-1.5070	-17.12	-1.3007	-17.88	-1.3645	-22.32
.871	-2.8604	-11.08	-1.7977	-12.38	-1.5519	-13.53	-1.2983	-13.97	-1.1313	-14.73	-1.2811	-19.85
.893	-2.7103	-10.24	-1.7240	-11.58	-1.4386	-12.23	-1.2234	-12.84	-1.0544	-13.39	-1.1606	-17.54
.916	-2.7448	-10.11	-1.6921	-11.08	-1.3556	-11.23	-1.1689	-11.96	-1.0137	-12.55	-1.1254	-16.58
.939	-2.5465	-9.15	-1.5577	-9.95	-1.2476	-10.09	-1.1101	-11.08	-.9621	-11.62	-1.0305	-14.81
.962	-2.4179	-8.48	-1.4611	-9.11	-1.1514	-9.09	-1.0593	-10.32	-.9221	-10.87	-.9602	-13.47
.984	-2.3128	-7.93	-1.3698	-8.35	-1.0697	-8.25	-1.0006	-9.53	-.8816	-10.16	-.9027	-12.38
1.007	-2.2683	-7.60	-1.3179	-7.85	-1.0052	-7.58	-.9380	-8.73	-.8462	-9.53	-.8327	-11.16
1.030	-2.1767	-7.13	-1.1814	-6.88	-.8748	-6.45	-.8528	-7.76	-.7702	-8.48	-.7625	-9.99
1.052	-2.1577	-6.92	-1.1400	-6.50	-.8759	-6.32	-.8239	-7.34	-.7245	-7.81	-.6899	-8.85
1.097	-2.1297	-6.55	-1.1504	-6.29	-.8657	-5.99	-.7714	-6.59	-.6413	-6.63	-.5560	-6.84
1.145	-1.3676	-4.03	-.7922	-4.15	-.6260	-4.15	-.5583	-4.57	-.4281	-4.24	-.3309	-3.90
1.167	-------	------	-------	------	-------	------	-------	------	-------	------	-------	------
1.188	-.9753	-2.77	-.6576	-3.32	-.5634	-3.60	-.4994	-3.94	-.3646	-3.48	-.2694	-3.06
1.213	-.7694	-2.14	-.5764	-2.85	-.4954	-3.10	-.4504	-3.48	-.3102	-2.90	-.2301	-2.56
1.239	-.6023	-1.64	-.4772	-2.31	-.4505	-2.76	-.3992	-3.02	-.2841	-2.60	-.2121	-2.31
1.257	-.3763	-1.01	-.3521	-1.68	-.3262	-1.97	-.3152	-2.35	-.2228	-2.01	-.1602	-1.72

TABLE VI

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = -8.6°$

[M = 0.145; p_t = 2,138 lb/sq ft; t_t = 89° F]

x	Rotational speed, rpm											
	300		350		400		450		500		550	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1												
0.358	-0.8591	-8.18	-0.8936	-11.58	-0.8903	-15.07	-0.8584	-18.39	-0.8250	-21.82	-0.9690	-30.97
.380	-.8561	-7.68	-.9173	-11.20	-.8999	-14.35	-.8691	-17.54	-.8572	-21.36	-1.0259	-30.89
.403	-.9919	-8.39	-1.0719	-12.34	-1.0355	-15.57	-.9811	-18.67	-.9751	-22.91	-1.1884	-33.74
.426	-1.0860	-8.69	-1.1560	-12.59	-1.0945	-15.57	-1.0326	-18.59	-1.0366	-23.04	-1.2655	-33.99
.449	-1.1723	-8.90	-1.2388	-12.80	-1.1625	-15.69	-1.0737	-18.34	-1.0906	-23.00	-1.3390	-34.12
.471	-1.3044	-9.44	-1.3248	-13.05	-1.2265	-15.78	-1.1378	-18.51	-1.1441	-23.00	-1.4025	-34.07
.495	-1.4987	-10.32	-1.4734	-13.81	-1.3372	-16.37	-1.2186	-18.88	-1.2348	-23.42	-1.4943	-34.54
.517	-1.6426	-10.83	-1.5623	-14.02	-1.3966	-16.37	-1.2700	-18.84	-1.2760	-23.37	-1.5454	-34.20
.540	-1.8012	-11.37	-1.6900	-14.52	-1.4623	-16.41	-1.3181	-18.72	-1.3282	-23.29	-1.5863	-33.61
.585	-2.0595	-12.00	-1.9317	-15.32	-1.6382	-16.79	-1.4401	-18.88	-1.4235	-23.04	-1.6908	-33.07
.631	-2.3843	-12.88	-2.1176	-15.57	-1.7525	-16.83	-1.5534	-18.88	-1.5267	-22.91	-1.7609	-31.93
.654	-2.4559	-12.80	-2.1948	-15.57	-1.7937	-16.62	-1.5742	-18.46	-1.5361	-22.24	-1.7559	-30.72
.676	-2.2390	-11.29	-2.1462	-14.73	-1.7882	-16.03	-1.5645	-17.75	-1.4921	-20.90	-1.6661	-28.20
.700	-2.7148	-13.22	-2.3990	-15.90	-1.9637	-17.00	-1.7086	-18.72	-1.6501	-22.32	-1.8128	-29.63
.722	-2.7282	-12.88	-2.4090	-15.48	-1.9897	-16.70	-1.7266	-18.34	-1.6478	-21.61	-1.7713	-28.07
.745	-2.7342	-12.51	-2.4456	-15.23	-2.0015	-16.28	-1.7242	-17.75	-1.6342	-20.77	-1.7216	-26.44
.768	-2.8547	-12.67	-2.4946	-15.07	-2.0531	-16.20	-1.7524	-17.50	-1.6579	-20.44	-1.6734	-24.93
.791	-2.8148	-12.13	-2.4824	-14.56	-2.0271	-15.53	-1.7441	-16.91	-1.6340	-19.56	-1.6481	-23.84
.813	-2.5831	-10.83	-2.3166	-13.22	-1.9252	-14.35	-1.6813	-15.86	-1.5567	-18.13	-1.5419	-21.70
.859	-2.5704	-10.20	-2.3699	-12.80	-1.9746	-13.93	-1.7014	-15.19	-1.5078	-16.62	-1.4144	-18.84
.905	-1.8505	-6.97	-1.8746	-9.61	-1.5980	-10.70	-1.3913	-11.79	-1.2549	-13.13	-1.1619	-14.69
.927	-1.7242	-6.34	-1.7263	-8.64	-1.4701	-9.61	-1.2885	-10.66	-1.1503	-11.75	-1.0808	-13.34
.950	-1.5078	-5.41	-1.6074	-7.85	-1.3153	-8.39	-1.1594	-9.36	-1.0193	-10.16	-.9964	-12.00
.973	-1.3644	-4.78	-1.4429	-6.88	-1.1994	-7.47	-1.0492	-8.27	-.9146	-8.90	-.9210	-10.83
.996	-1.1513	-3.94	-1.2344	-5.75	-1.0207	-6.21	-.9104	-7.01	-.7721	-7.34	-.8252	-9.48
1.018	-1.0901	-3.65	-1.1234	-5.12	-.9172	-5.46	-.7964	-6.00	-.6859	-6.38	-.7394	-8.31
1.042	-.8865	-2.90	-.9702	-4.32	-.7789	-4.53	-.6956	-5.12	-.6097	-5.54	-.6803	-7.47
1.064	-.7460	-2.39	-.8371	-3.65	-.6777	-3.86	-.5938	-4.28	-.5000	-4.45	-.6007	-6.46
1.085	-.5889	-1.85	-.7156	-3.06	-.5783	-3.23	-.5164	-3.65	-.4618	-4.03	-.5329	-5.62
1.133	-.3889	-1.17	-.5226	-2.14	-.4469	-2.39	-.4151	-2.81	-.4116	-3.44	-.4317	-4.36
1.179	-.2041	-.59	-.1703	-.67	-.1887	-.97	-.2121	-1.38	-.2565	-2.06	-.2638	-2.56
1.201	-.1198	-.34	-.0880	-.34	-.1407	-.71	-.1770	-1.13	-.2232	-1.76	-.2383	-2.27
1.223	-.0601	-.17	-.0448	-.17	-.0848	-.42	-.1403	-.88	-.1847	-1.43	-.2020	-1.89
1.247	-.0146	-.04	.0457	.17	-.0268	-.13	-.0683	-.42	-.1383	-1.05	-.1504	-1.38
1.269	-------	------	.1039	.38	.0356	.17	-.0215	-.13	-.1072	-.80	-.1165	-1.05
Rake 2												
0.324	-0.9334	-9.82	-0.9058	-12.97	-0.8480	-15.86	-0.7959	-18.84	-0.7394	-21.61	-0.8034	-28.37
.346	-.8344	-8.22	-.8793	-11.79	-.8485	-14.86	-.7990	-17.71	-.7791	-21.32	-.8718	-28.83
.369	-.8812	-8.14	-.9449	-11.88	-.9176	-15.07	-.8742	-18.17	-.8585	-22.03	-.9988	-30.97
.392	-.9557	-8.31	-1.0173	-12.04	-.9988	-15.44	-.9543	-18.67	-.9609	-23.21	-1.1316	-33.03
.415	-------	------	-------	------	-------	------	-------	------	-------	------	-------	------
.437	-1.0974	-8.56	-1.1699	-12.42	-1.1286	-15.65	-1.0496	-18.42	-1.0712	-23.21	-1.2726	-33.32
.460	-1.1660	-8.64	-1.2314	-12.42	-1.1751	-15.48	-1.1024	-18.38	-1.1212	-23.08	-1.3396	-33.32
.483	-1.3022	-9.19	-1.3190	-12.67	-1.2442	-15.61	-1.1601	-18.42	-1.1773	-23.08	-1.4083	-33.36
.505	-1.4741	-9.95	-1.4346	-13.18	-1.3359	-16.03	-1.2327	-18.72	-1.2555	-23.54	-1.4817	-33.57
.551	-1.7700	-10.95	-1.6947	-14.27	-1.4921	-16.41	-1.3564	-18.88	-1.3668	-23.29	-1.4411	-33.36
.597	-2.0877	-11.92	-1.8787	-14.60	-1.6374	-16.62	-1.4634	-18.80	-1.4634	-23.21	-1.7015	-32.61
.620	-2.3355	-12.84	-2.0473	-15.32	-1.7516	-17.12	-1.5473	-19.14	-1.5662	-23.92	-1.7785	-32.82
.642	-2.4334	-12.92	-2.1421	-15.48	-1.8275	-17.25	-1.5980	-19.09	-1.6022	-23.63	-1.8034	-32.14
.666	-2.5244	-12.92	-2.2221	-15.48	-1.8728	-17.04	-1.6256	-18.72	-1.6177	-23.00	-1.7981	-30.89
.688	-2.5755	-12.76	-2.3030	-15.53	-1.9199	-16.91	-1.6605	-18.51	-1.6254	-22.37	-1.7889	-29.75
.710	-2.7349	-13.13	-2.3827	-15.57	-1.9719	-16.83	-1.6942	-18.30	-1.6519	-22.03	-1.7865	-28.79
.734	-2.8467	-13.22	-2.4633	-15.57	-2.0337	-16.79	-1.7390	-18.17	-1.6883	-21.78	-1.8469	-28.79
.756	-2.9964	-13.51	-2.4882	-15.27	-2.0472	-16.41	-1.7576	-17.83	-1.6886	-21.15	-1.7549	-26.56
.779	-3.0212	-13.22	-2.5219	-15.02	-2.0658	-16.07	-1.7644	-17.37	-1.6602	-20.18	-1.7001	-24.97
.825	-3.2505	-13.43	-2.6495	-14.90	-2.1538	-15.82	-1.8287	-17.00	-1.6528	-18.97	-1.6094	-22.32
.871	-3.2273	-12.63	-2.4744	-13.18	-2.0381	-14.18	-1.7115	-15.07	-1.4975	-16.28	-1.4053	-18.46
.893	-3.1228	-11.92	-2.3829	-12.38	-1.9850	-13.47	-1.6464	-14.14	-1.4090	-14.94	-1.3034	-16.70
.916	-3.2140	-11.96	-2.3357	-11.83	-1.9605	-12.97	-1.5993	-13.39	-1.3234	-13.68	-1.2529	-15.65
.939	-3.0523	-11.08	-2.2081	-10.91	-1.8207	-11.75	-1.4803	-12.09	-1.2148	-12.25	-1.1916	-14.52
.962	-2.8787	-10.20	-2.0714	-9.99	-1.6716	-10.53	-1.3635	-10.87	-1.1044	-10.87	-1.1216	-13.34
.984	-2.7511	-9.53	-1.9046	-8.98	-1.5264	-9.40	-1.2548	-9.78	-1.0122	-9.74	-1.0578	-12.30
1.007	-2.7031	-9.15	-1.8037	-8.31	-1.4358	-8.64	-1.1463	-8.73	-.9189	-8.64	-1.0086	-11.46
1.030	-2.5624	-8.48	-1.6295	-7.34	-1.2408	-7.30	-.9979	-7.43	-.8169	-7.51	-.9443	-10.49
1.052	-2.6017	-8.43	-1.5510	-6.84	-1.1735	-6.76	-.9328	-6.80	-.7366	-6.63	-.9029	-9.82
1.097	-2.5135	-7.81	-1.4778	-6.25	-1.0626	-5.87	-.7810	-5.46	-.6662	-5.75	-.7728	-8.06
1.145	-1.6493	-4.91	-.9205	-3.73	-.6821	-3.61	-.5643	-3.78	-.4668	-3.86	-.4954	-4.95
1.167	-------	------	-------	------	-------	------	-------	------	-------	------	-------	------
1.188	-1.2268	-3.52	-.6453	-2.52	-.5294	-2.69	-.4678	-3.02	-.4216	-3.36	-.3831	-3.69
1.213	-.9715	-2.73	-.5255	-2.01	-.4204	-2.10	-.3986	-2.52	-.3869	-3.02	-.3467	-3.27
1.239	-.7924	-2.18	-.4139	-1.55	-.3435	-1.68	-.3522	-2.18	-.3350	-2.56	-.3043	-2.81
1.257	-.5568	-1.51	-.2384	-.88	-.2178	-1.05	-.2540	-1.55	-.2615	-1.97	-.2164	-1.97

TABLE VI.- Concluded

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = -8.6^\circ$

[$M = 0.145$; $p_t = 2{,}138$ lb/sq ft; $t_t = 89^\circ$ F]

x	Rotational speed, rpm											
	600		650		700		800		900		950	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1												
0.358	-0.8605	-32.73	-0.7306	-32.61	-0.6242	-32.31	-0.4820	-32.52	-0.3609	-30.76	-0.3208	-30.47
.380	-.9394	-33.66	-.8123	-34.16	-.7072	-34.49	-.5407	-34.37	-.4013	-32.23	-.3540	-31.68
.403	-1.0545	-35.63	-.9145	-36.26	-.8048	-37.01	-.6035	-36.17	-.4445	-33.66	-.3969	-33.49
.426	-1.1328	-36.21	-.9923	-37.22	-.8749	-38.06	-.6571	-37.26	-.4868	-34.87	-.4342	-34.66
.449	-1.2218	-37.05	-1.0824	-38.52	-.9558	-39.45	-.7207	-38.77	-.5397	-36.68	-.4788	-36.26
.471	-1.2961	-37.47	-1.1528	-39.11	-1.0133	-39.87	-.7659	-39.28	-.5803	-37.60	-.5178	-37.38
.495	-1.4050	-38.65	-1.2518	-40.41	-1.0997	-41.17	-.8343	-40.71	-.6331	-39.03	-.5632	-38.69
.517	-1.4546	-38.31	-1.3129	-40.58	-1.1427	-40.96	-.8669	-40.50	-.6626	-39.11	-.5966	-39.24
.540	-1.5229	-38.40	-1.3740	-40.66	-1.2092	-41.50	-.9146	-40.91	-.7084	-40.03	-.6332	-39.87
.585	-1.6712	-38.90	-1.5303	-41.80	-1.5868	-42.93	-1.0346	-42.72	-.8004	-41.75	-.7155	-41.59
.631	-1.7364	-37.47	-1.6040	-40.62	-1.4188	-41.67	-1.0907	-41.75	-.8494	-41.08	-.7662	-41.29
.654	-1.7593	-36.63	-1.6404	-40.08	-1.4617	-41.42	-1.1272	-41.63	-.8823	-41.17	-.7919	-41.17
.676	-1.7227	-34.70	-1.6351	-38.65	-1.4711	-40.33	-1.1522	-41.17	-.9054	-40.87	-.8143	-40.96
.700	-1.8425	-35.84	-1.7299	-39.49	-1.5437	-40.87	-1.2015	-41.46	-.9384	-40.91	-.8457	-41.08
.722	-1.8511	-34.91	-1.7481	-38.69	-1.5728	-40.37	-1.2291	-41.12	-.9641	-40.75	-.8687	-40.91
.745	-1.8252	-33.36	-1.7586	-37.72	-1.5923	-39.61	-1.2556	-40.71	-.9875	-40.45	-.8937	-40.79
.768	-1.8438	-32.69	-1.7831	-37.10	-1.6295	-39.32	-1.2915	-40.62	-1.0150	-40.33	-.9184	-40.66
.791	-1.8090	-31.14	-1.7825	-36.01	-1.6548	-38.77	-1.3125	-40.08	-1.0389	-40.08	-.9422	-40.50
.813	-1.7464	-29.25	-1.7573	-34.45	-1.6512	-37.64	-1.3319	-39.57	-1.0577	-39.70	-.9643	-40.33
.859	-1.6547	-26.23	-1.7460	-32.48	-1.6923	-36.51	-1.3894	-39.07	-1.1127	-39.53	-1.0156	-40.20
.905	-1.4110	-21.23	-1.5688	-27.70	-1.6066	-32.90	-1.3930	-37.18	-1.1412	-38.48	-1.0588	-39.78
.927	-1.2942	-19.01	-1.4776	-25.47	-1.5491	-30.97	-1.3801	-35.96	-1.1525	-37.94	-1.0742	-39.40
.950	-1.2063	-17.29	-1.3822	-23.25	-1.5035	-29.33	-1.3797	-35.08	-1.1681	-37.52	-1.0986	-39.32
.973	-1.0976	-15.36	-1.2750	-20.94	-1.4144	-26.94	-1.3559	-33.66	-1.1680	-36.63	-1.1109	-38.82
.996	-.9728	-13.30	-1.1431	-18.34	-1.2899	-24.00	-1.2960	-31.43	-1.1492	-35.21	-1.1175	-38.15
1.018	-.8755	-11.71	-1.0346	-16.24	-1.1920	-21.70	-1.2504	-29.67	-1.1396	-34.16	-1.1257	-37.60
1.042	-.7997	-10.45	-.9579	-14.69	-1.1183	-19.89	-1.2148	-28.16	-1.1306	-33.11	-1.1330	-36.97
1.064	-.6853	-8.77	-.8436	-12.67	-1.0024	-17.46	-1.1330	-25.72	-1.1004	-31.56	-1.1293	-36.09
1.085	-.5849	-7.34	-.7211	-10.62	-.8846	-15.11	-1.0426	-23.21	-1.0610	-29.84	-1.1168	-35.00
1.133	-.4085	-4.91	-.5148	-7.26	-.6260	-10.24	-.7932	-16.91	-.9160	-24.67	-1.0626	-31.89
1.179	-.1888	-2.18	-.2664	-3.61	-.3098	-4.87	-.4178	-8.56	-.5707	-14.77	-.7712	-22.24
1.201	-.1517	-1.72	-.2180	-2.90	-.2502	-3.86	-.3192	-6.42	-.4542	-11.54	-.6241	-17.67
1.223	-.1096	-1.22	-.1607	-2.10	-.1742	-2.64	-.2253	-4.45	-.3363	-8.39	-.4647	-12.92
1.247	-.0504	-.55	-.1116	-1.43	-.1184	-1.76	-.1389	-2.69	-.2162	-5.29	-.3153	-8.60
1.269	-.0158	-.17	-.0770	-.97	-.0863	-1.26	-.0835	-1.59	-.1256	-3.02	-.1896	-5.08
Rake 2												
0.324	-0.6979	-29.33	-0.5606	-27.65	-0.4797	-27.44	-0.3885	-28.96	-0.2976	-28.03	-0.2635	-27.65
.346	-.7826	-30.80	-.6461	-29.84	-.5657	-30.30	-.4502	-31.43	-.3388	-29.88	-.2976	-29.25
.369	-.8745	-32.27	-.7306	-31.64	-.6517	-32.73	-.5142	-33.66	-.3805	-31.47	-.3320	-30.59
.392	-.9895	-34.37	-.8277	-33.74	-.7473	-35.33	-.5816	-35.84	-.4275	-33.28	-.3773	-32.73
.415	-------	------	-------	------	-------	------	-------	------	-------	------	-------	------
.437	-1.1300	-35.21	-.9755	-35.67	-.8826	-37.43	-.6803	-37.60	-.5114	-35.71	-.4530	-35.25
.460	-1.2121	-35.88	-1.0691	-37.14	-.9571	-38.56	-.7376	-38.73	-.5579	-37.01	-.4939	-36.51
.483	-1.2862	-36.26	-1.1441	-37.85	-1.0258	-39.36	-.7863	-39.32	-.5991	-37.85	-.5341	-37.60
.505	-1.3663	-36.84	-1.2281	-38.86	-1.0965	-40.24	-.8369	-40.03	-.6438	-38.90	-.5758	-38.77
.551	-1.5417	-38.10	-1.4196	-41.17	-1.2538	-42.17	-.9592	-42.05	-.7358	-40.75	-.6582	-40.62
.597	-1.6319	-37.22	-1.5191	-40.66	-1.3343	-41.42	-1.0279	-41.59	-.7980	-40.79	-.7183	-40.91
.620	-1.7120	-37.60	-1.6036	-41.33	-1.3998	-41.84	-1.0814	-42.13	-.8365	-41.17	-.7522	-41.25
.642	-1.7568	-37.26	-1.6456	-40.96	-1.4408	-41.59	-1.1166	-42.01	-.8643	-41.08	-.7789	-41.25
.666	-1.7794	-36.38	-1.6755	-40.20	-1.4763	-41.08	-1.1489	-41.67	-.8920	-40.87	-.8039	-41.04
.688	-1.8129	-35.88	-1.7093	-39.70	-1.5143	-40.79	-1.1786	-41.38	-.9196	-40.79	-.8304	-41.04
.710	-1.8229	-34.96	-1.7320	-38.98	-1.5417	-40.24	-1.2087	-41.12	-.9472	-40.71	-.8561	-41.00
.734	-1.8662	-34.62	-1.7694	-38.52	-1.5823	-39.95	-1.2419	-40.87	-.9751	-40.54	-.8814	-40.83
.756	-1.8777	-33.82	-1.7926	-37.89	-1.6179	-39.66	-1.2701	-40.58	-.9959	-40.20	-.9060	-40.75
.779	-1.8536	-32.40	-1.8106	-37.14	-1.6406	-39.03	-1.2994	-40.29	-1.0209	-39.99	-.9288	-40.54
.825	-1.8304	-30.21	-1.8437	-35.71	-1.7037	-38.27	-1.3672	-40.03	-1.0801	-39.95	-.9805	-40.41
.871	-1.6855	-26.35	-1.8004	-33.03	-1.7079	-36.34	-1.4164	-39.28	-1.1294	-39.57	-1.0308	-40.24
.893	-1.5661	-23.88	-1.7073	-30.55	-1.6846	-34.96	-1.4256	-38.56	-1.1445	-39.11	-1.0492	-39.95
.916	-1.4705	-21.86	-1.6670	-29.08	-1.6800	-33.99	-1.4498	-38.23	-1.1728	-39.07	-1.0741	-39.87
.939	-1.3427	-19.47	-1.5513	-26.40	-1.6138	-31.85	-1.4504	-37.31	-1.1853	-38.52	-1.0917	-39.53
.962	-1.2392	-17.54	-1.4376	-23.88	-1.5552	-29.96	-1.4373	-36.09	-1.1973	-37.98	-1.1065	-39.11
.984	-1.1338	-15.69	-1.3233	-21.49	-1.4793	-27.86	-1.4221	-34.91	-1.1976	-37.14	-1.1234	-38.82
1.007	-1.0243	-13.85	-1.2112	-19.22	-1.3726	-25.26	-1.3820	-33.15	-1.1992	-36.34	-1.1361	-38.36
1.030	-.9145	-12.09	-1.1009	-17.08	-1.3061	-23.50	-1.3637	-31.98	-1.2026	-35.63	-1.1454	-37.81
1.052	-.8367	-10.83	-.9974	-15.15	-1.1932	-21.02	-1.3122	-30.13	-1.1876	-34.45	-1.1491	-37.14
1.097	-.6832	-8.48	-.7867	-11.46	-.9288	-15.69	-1.1281	-24.84	-1.1162	-31.05	-1.1508	-35.67
1.145	-.3742	-4.45	-.4600	-6.42	-.5338	-8.64	-.7537	-15.90	-.8739	-23.29	-.9934	-29.50
1.167	-------	------	-------	------	-------	------	-------	------	-------	------	-------	------
1.188	-.2417	-2.77	-.2840	-3.82	-.3013	-4.70	-.4623	-9.40	-.6026	-15.48	-.7418	-21.23
1.213	-.1719	-1.93	-.2323	-3.06	-.2114	-3.23	-.3435	-6.84	-.4671	-11.75	-.6047	-16.95
1.239	-.1374	-1.51	-.1853	-2.39	-.1685	-2.52	-.2283	-4.45	-.3220	-7.93	-.4449	-12.21
1.257	-.0739	-.80	-.1290	-1.64	-.0997	-1.47	-.1462	-2.81	-.2093	-5.08	-.2980	-8.06

TABLE VII

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = -13.6^{\circ}$

$[M = 0.136;\ p_t = 2{,}131$ lb/sq ft; $t_t = 90^{\circ}$ F$]$

x	Rotational speed, rpm									
	300		350		400		450		500	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1										
0.358	-0.9644	-9.15	-0.8936	-11.54	-1.0696	-18.00	-0.9751	-20.77	-0.9162	-24.09
.380	-1.0002	-8.94	-.9108	-11.08	-1.0880	-17.25	-.9952	-19.97	-.9587	-23.75
.403	-1.1307	-9.53	-1.0574	-12.13	-1.2154	-18.17	-1.0956	-20.73	-1.0673	-24.93
.426	-1.2680	-10.11	-1.1528	-12.51	-1.2848	-18.17	-1.1486	-20.56	-1.1282	-24.93
.449	-1.3920	-10.53	-1.2393	-12.76	-1.3541	-18.17	-1.1982	-20.35	-1.1891	-24.93
.471	-1.5600	-11.25	-1.3550	-13.30	-1.4338	-18.34	-1.2724	-20.60	-1.2514	-25.01
.495	-1.7371	-11.92	-1.5055	-14.06	-1.5479	-18.84	-1.3645	-21.02	-1.3393	-25.47
.517	-1.9041	-12.51	-1.6193	-14.48	-1.6244	-18.93	-1.4251	-21.02	-1.3944	-25.39
.540	-2.1145	-13.30	-1.7544	-15.02	-1.7110	-19.09	-1.4977	-21.15	-1.4662	-25.56
.585	-2.4216	-14.06	-1.9918	-15.74	-1.9070	-19.64	-1.6609	-21.65	-1.5909	-25.60
.631	-2.6343	-14.18	-2.1306	-15.61	-1.9774	-18.88	-1.7394	-21.02	-1.6677	-24.88
.654	-2.7072	-14.06	-2.1899	-15.48	-2.0038	-18.46	-1.7599	-20.52	-1.6820	-24.21
.676	-2.5475	-12.80	-2.1290	-14.56	-1.9826	-17.67	-1.7296	-19.51	-1.6395	-22.83
.700	-2.9573	-14.35	-2.3757	-15.69	-2.1448	-18.46	-1.8910	-20.60	-1.7914	-24.09
.722	-2.9887	-14.06	-2.4176	-15.48	-2.1523	-17.96	-1.8956	-20.02	-1.7924	-23.37
.745	-3.0005	-13.68	-2.4479	-15.19	-2.1689	-17.54	-1.8856	-19.30	-1.7767	-22.45
.768	-3.1316	-13.85	-2.5102	-15.11	-2.1989	-17.25	-1.9227	-19.09	-1.8079	-22.16
.791	-3.1276	-13.43	-2.5272	-14.77	-2.1978	-16.74	-1.9107	-18.42	-1.7806	-21.19
.813	-2.9536	-12.34	-2.3987	-13.64	-2.1294	-15.78	-1.8434	-17.29	-1.7247	-19.97
.859	-3.0778	-12.17	-2.4954	-13.43	-2.1843	-15.32	-1.8621	-16.53	-1.7155	-18.80
.905	-2.4593	-9.23	-2.0790	-10.62	-1.8912	-12.59	-1.6034	-13.51	-1.4680	-15.27
.927	-2.2789	-8.35	-1.9611	-9.78	-1.8079	-11.75	-1.5354	-12.63	-1.3599	-13.81
.950	-2.0669	-7.39	-1.8022	-8.77	-1.6604	-10.53	-1.3953	-11.20	-1.2322	-12.21
.973	-1.8992	-6.63	-1.6690	-7.93	-1.5585	-9.65	-1.2964	-10.16	-1.1018	-10.66
.996	-1.6480	-5.62	-1.4564	-6.76	-1.3589	-8.22	-1.1455	-8.77	-.9723	-9.19
1.018	-1.5105	-5.04	-1.3498	-6.13	-1.2554	-7.43	-1.0360	-7.76	-.8619	-7.97
1.042	-1.3375	-4.36	-1.1923	-5.29	-1.1103	-6.42	-.9347	-6.84	-.7571	-6.84
1.064	-1.1841	-3.78	-1.0725	-4.66	-.9854	-5.58	-.8191	-5.87	-.6499	-5.75
1.085	-1.0605	-3.32	-.9646	-4.11	-.8770	-4.87	-.7285	-5.12	-.5705	-4.95
1.133	-.8406	-2.52	-.7622	-3.11	-.7184	-3.82	-.6300	-4.24	-.4947	-4.11
1.179	-.3645	-1.05	-.3647	-1.43	-.4109	-2.10	-.3572	-2.31	-.3156	-2.52
1.201	-.2510	-.71	-.2832	-1.09	-.3269	-1.64	-.3103	-1.97	-.2896	-2.27
1.223	-.1656	-.46	-.2011	-.76	-.2477	-1.22	-.2486	-1.55	-.2404	-1.85
1.247	-.0771	-.21	-.1484	-.55	-.1739	-.84	-.1995	-1.22	-.1947	-1.47
1.269	.0149	.04	-.0576	-.21	-.0800	-.38	-.1265	-.76	-.1523	-1.13
Rake 2										
0.324	-1.0331	-10.83	-0.9055	-12.92	-1.0067	-18.72	-0.9059	-21.32	-0.8174	-23.75
.346	-.9402	-9.23	-.8540	-11.41	-1.0171	-17.71	-.9216	-20.31	-.8560	-23.29
.369	-.9799	-9.02	-.9179	-11.50	-1.1000	-17.96	-.9910	-20.48	-.9361	-23.88
.392	-1.0560	-9.15	-1.0107	-11.92	-1.1933	-18.34	-1.0698	-20.81	-1.0294	-24.72
.415	-------	------	-------	------	-------	------	-------	------	-------	------
.437	-1.2853	-9.99	-1.1825	-12.51	-1.3121	-18.09	-1.1714	-20.44	-1.1476	-24.72
.460	-1.4206	-10.49	-1.2776	-12.84	-1.3873	-18.17	-1.2252	-20.31	-1.2080	-24.72
.483	-1.5571	-10.95	-1.3937	-13.34	-1.4671	-18.30	-1.2915	-20.39	-1.2684	-24.72
.505	-1.7529	-11.79	-1.5359	-14.06	-1.5758	-18.80	-1.3782	-20.81	-1.3551	-25.26
.551	-2.1040	-12.97	-1.8057	-15.15	-1.7770	-19.43	-1.5528	-21.49	-1.5031	-25.68
.597	-2.3236	-13.22	-1.9719	-15.27	-1.8837	-19.01	-1.6425	-20.98	-1.5912	-25.09
.620	-2.5117	-13.76	-2.1217	-15.82	-1.9913	-19.35	-1.7367	-21.36	-1.6861	-25.60
.642	-2.6254	-13.89	-2.1858	-15.74	-2.0523	-19.26	-1.7807	-21.15	-1.7316	-25.39
.666	-2.6980	-13.76	-2.2301	-15.48	-2.0694	-18.72	-1.8036	-20.65	-1.7489	-24.72
.688	-2.7446	-13.55	-2.2606	-15.19	-2.1035	-18.42	-1.6015	-17.75	-1.7606	-24.09
.710	-2.8595	-13.68	-2.3329	-15.19	-2.1413	-18.17	-1.8594	-19.97	-1.7823	-23.63
.734	-2.9562	-13.68	-2.3927	-15.07	-2.1881	-17.96	-1.8982	-19.72	-1.8191	-23.33
.756	-3.0359	-13.64	-2.4301	-14.86	-2.2009	-17.54	-1.9095	-19.26	-1.8198	-22.66
.779	-3.0709	-13.39	-2.4400	-14.48	-2.2084	-17.08	-1.8991	-18.59	-1.8024	-21.78
.825	-3.2620	-13.43	-2.5608	-14.35	-2.2923	-16.74	-1.9572	-18.09	-1.8098	-20.65
.871	-3.1003	-12.09	-2.4191	-12.84	-2.1411	-14.81	-1.8310	-16.03	-1.6775	-18.13
.893	-2.9787	-11.33	-2.3354	-12.09	-2.0469	-13.81	-1.7590	-15.02	-1.3015	-13.72
.916	-2.9530	-10.95	-2.3123	-11.67	-2.0039	-13.18	-1.7094	-14.23	-1.5228	-15.65
.939	-2.7839	-10.07	-2.1896	-10.78	-1.8843	-12.09	-1.6119	-13.09	-1.4025	-14.06
.962	-2.6396	-9.32	-2.0955	-10.07	-1.7628	-11.04	-1.4874	-11.79	-1.2866	-12.59
.984	-2.4914	-8.60	-1.9838	-9.32	-1.6251	-9.95	-1.3807	-10.70	-1.1760	-11.25
1.007	-2.3629	-7.97	-1.9386	-8.90	-1.5494	-9.27	-1.2968	-9.82	-1.0729	-10.03
1.030	-2.2410	-7.39	-1.7958	-8.06	-1.3625	-7.97	-1.1508	-8.52	-.9224	-8.43
1.052	-2.1959	-7.09	-1.7386	-7.64	-1.3183	-7.55	-1.0885	-7.89	-.8437	-7.55
1.097	-2.0735	-6.42	-1.6729	-7.05	-1.1926	-6.55	-.9783	-6.80	-.7435	-6.38
1.145	-1.3282	-3.94	-1.1121	-4.49	-.7735	-4.07	-.6547	-4.36	-.4902	-4.03
1.167	-------	------	-------	------	-------	------	-------	------	-------	------
1.188	-.9968	-2.85	-.8300	-3.23	-.5797	-2.94	-.5172	-3.32	-.3779	-3.27
1.213	-.7785	-2.18	-.6927	-2.64	-.4993	-2.48	-.4534	-2.85	-.3788	-2.94
1.239	-.5982	-1.64	-.5628	-2.10	-.4051	-1.97	-.3818	-2.35	-.3541	-2.69
1.257	-.3886	-1.05	-.3888	-1.43	-.2712	-1.30	-.2901	-1.76	-.2684	-2.01

TABLE VII.- Concluded

SECTION THRUST COEFFICIENT AND TOTAL-PRESSURE DIFFERENTIAL FOR $\beta_{0.75R} = -13.6^{\circ}$

$\left[M = 0.136;\ p_t = 2{,}131\ \text{lb/sq ft};\ t_t = 90^{\circ}\ \text{F}\right]$

x	Rotational speed, rpm							
	550		600		650		700	
	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t	c_t	Δp_t
Rake 1								
0.358	-0.9090	-28.87	-0.8683	-32.82	-0.7180	-31.85	-0.6157	-31.68
.380	-.9522	-28.49	-.9309	-33.15	-.7963	-33.28	-.6847	-33.19
.403	-1.0098	-28.49	-1.0272	-34.49	-.8892	-35.04	-.7719	-35.29
.426	-1.1397	-30.42	-1.0978	-34.87	-.9692	-36.13	-.8414	-36.38
.449	-1.1930	-30.21	-1.1753	-35.42	-1.0441	-36.93	-.9105	-37.35
.471	-1.2514	-30.21	-1.2430	-35.71	-1.1078	-37.35	-.9678	-37.85
.495	-1.3357	-30.68	-1.3231	-36.17	-1.1863	-38.06	-1.0274	-38.23
.517	-1.3950	-30.68	-1.3915	-36.42	-1.2391	-38.06	-1.0730	-38.23
.540	-1.4609	-30.76	-1.4502	-36.34	-1.3000	-38.23	-1.1231	-38.31
.585	-1.5651	-30.42	-1.5784	-36.51	-1.4146	-38.40	-1.2183	-38.36
.631	-1.6394	-29.54	-1.6694	-35.80	-1.4972	-37.68	-1.2894	-37.64
.654	-1.6537	-28.75	-1.7037	-35.25	-1.5415	-37.43	-1.3276	-37.39
.676	-1.5868	-26.69	-1.6501	-33.03	-1.5920	-35.92	-1.3414	-36.55
.700	-1.7411	-28.28	-1.7950	-34.70	-1.6353	-37.10	-1.4080	-37.05
.722	-1.7374	-27.36	-1.8024	-33.78	-1.6676	-36.68	-1.4460	-36.89
.745	-1.7160	-26.19	-1.8135	-32.94	-1.6968	-36.17	-1.4836	-36.68
.768	-1.7434	-25.81	-1.8553	-32.69	-1.7492	-36.17	-1.5294	-36.68
.791	-1.7163	-24.67	-1.8618	-31.85	-1.7852	-35.84	-1.5696	-36.55
.813	-1.6503	-23.08	-1.8457	-30.72	-1.8005	-35.17	-1.5982	-36.21
.859	-1.6266	-21.53	-1.8619	-29.33	-1.8656	-34.49	-1.6770	-35.96
.905	-1.3897	-17.46	-1.6954	-25.35	-1.7934	-31.47	-1.6784	-34.16
.927	-1.2931	-15.86	-1.5982	-23.33	-1.7588	-30.13	-1.6703	-33.19
.950	-1.1814	-14.14	-1.5234	-21.70	-1.7169	-28.70	-1.6643	-32.27
.973	-1.0705	-12.51	-1.4180	-19.72	-1.6328	-26.65	-1.6249	-30.76
.996	-.9338	-10.66	-1.2542	-17.04	-1.5084	-24.05	-1.5497	-28.66
1.018	-.8344	-9.32	-1.1397	-15.15	-1.4045	-21.91	-1.4867	-26.90
1.042	-.7579	-8.27	-1.0534	-13.68	-1.3300	-20.27	-1.4386	-25.43
1.064	-.6635	-7.09	-.9270	-11.79	-1.2060	-18.00	-1.3378	-23.16
1.085	-.6002	-6.29	-.8074	-10.07	-1.0692	-15.65	-1.2187	-20.69
1.133	-.5102	-5.12	-.5970	-7.13	-.7784	-10.91	-.9953	-15.53
1.179	-.3526	-3.40	-.3511	-4.03	-.4172	-5.62	-.5453	-8.52
1.201	-.3327	-3.15	-.3018	-3.40	-.3267	-4.32	-.4375	-6.71
1.223	-.3023	-2.81	-.2314	-2.56	-.2487	-3.23	-.3207	-4.83
1.247	-.2621	-2.39	-.1898	-2.06	-.1743	-2.22	-.2187	-3.23
1.269	-.2243	-2.01	-.1491	-1.59	-.1207	-1.51	-.1330	-1.93
Rake 2								
0.324	-0.8013	-28.12	-0.7425	-31.01	-0.5874	-28.79	-0.4983	-28.33
.346	-.8478	-27.86	-.8070	-31.56	-.6628	-30.42	-.5724	-30.47
.369	-.9356	-28.83	-.8868	-32.52	-.7449	-32.06	-.6507	-32.48
.392	-1.0315	-29.92	-.9774	-33.74	-.8401	-34.03	-.7340	-34.49
.415	-------	------	-------	------	-------	------	-------	------
.437	-1.1530	-30.00	-1.1138	-34.49	-.9895	-35.96	-.8681	-36.59
.460	-1.2137	-30.00	-1.1854	-34.87	-1.0648	-36.76	-.9328	-37.35
.483	-1.2744	-30.00	-1.2553	-35.17	-1.1348	-37.31	-.9880	-37.68
.505	-1.3551	-30.51	-1.3327	-35.71	-1.2049	-37.89	-1.0481	-38.23
.551	-1.4824	-30.59	-1.4850	-36.47	-1.3452	-38.77	-1.1598	-38.77
.597	-1.5909	-30.30	-1.5887	-36.01	-1.4387	-38.27	-1.2310	-37.98
.620	-1.6702	-30.63	-1.6614	-36.26	-1.4941	-38.27	-1.2754	-37.89
.642	-1.7086	-30.26	-1.6985	-35.80	-1.5354	-37.98	-1.3105	-37.60
.666	-1.7180	-29.33	-1.7349	-35.25	-1.5752	-37.56	-1.3505	-37.35
.688	-1.7191	-28.41	-1.7515	-34.45	-1.6073	-37.10	-1.3872	-37.14
.710	-1.7428	-27.91	-1.7876	-34.07	-1.6511	-36.93	-1.4250	-36.97
.734	-1.7746	-27.49	-1.8323	-33.78	-1.7027	-36.84	-1.4680	-36.84
.756	-1.7746	-26.69	-1.8615	-33.32	-1.7419	-36.59	-1.5701	-36.72
.779	-1.7512	-25.56	-1.8675	-32.44	-1.7743	-36.17	-1.5492	-36.63
.825	-1.7233	-23.75	-1.9010	-31.18	-1.8572	-35.75	-1.6353	-36.51
.871	-1.6010	-20.90	-1.9040	-29.58	-1.9174	-34.96	-1.7122	-36.21
.893	-1.4930	-19.01	-1.7943	-27.19	-1.9040	-33.86	-1.7274	-35.63
.916	-1.4364	-17.83	-1.7898	-26.44	-1.9265	-33.40	-1.7674	-35.54
.939	-1.3346	-16.16	-1.6918	-24.38	-1.8809	-31.81	-1.7669	-34.66
.962	-1.2285	-14.52	-1.5868	-22.32	-1.8355	-30.30	-1.7491	-33.49
.984	-1.1545	-13.34	-1.4827	-20.39	-1.7579	-28.37	-1.7330	-32.44
1.007	-1.0663	-12.04	-1.3492	-18.13	-1.6683	-26.31	-1.6838	-30.80
1.030	-.9657	-10.66	-1.2620	-16.58	-1.6085	-24.80	-1.6591	-29.67
1.052	-.8966	-9.69	-1.1615	-14.94	-1.5011	-22.66	-1.5912	-27.86
1.097	-.7854	-8.14	-.9461	-11.67	-1.2261	-17.75	-1.3847	-23.25
1.145	-.5408	-5.37	-.6109	-7.22	-.8018	-11.12	-.9884	-15.90
1.167	-------	------	-------	------	-------	------	-------	------
1.188	-.4827	-4.62	-.4530	-5.16	-.5244	-7.01	-.6791	-10.53
1.213	-.4427	-4.15	-.3684	-4.11	-.4102	-5.37	-.5413	-8.22
1.239	-.4119	-3.78	-.3150	-3.44	-.3144	-4.03	-.4009	-5.96
1.257	-.3438	-3.11	-.2452	-2.64	-.2224	-2.81	-.2921	-4.28

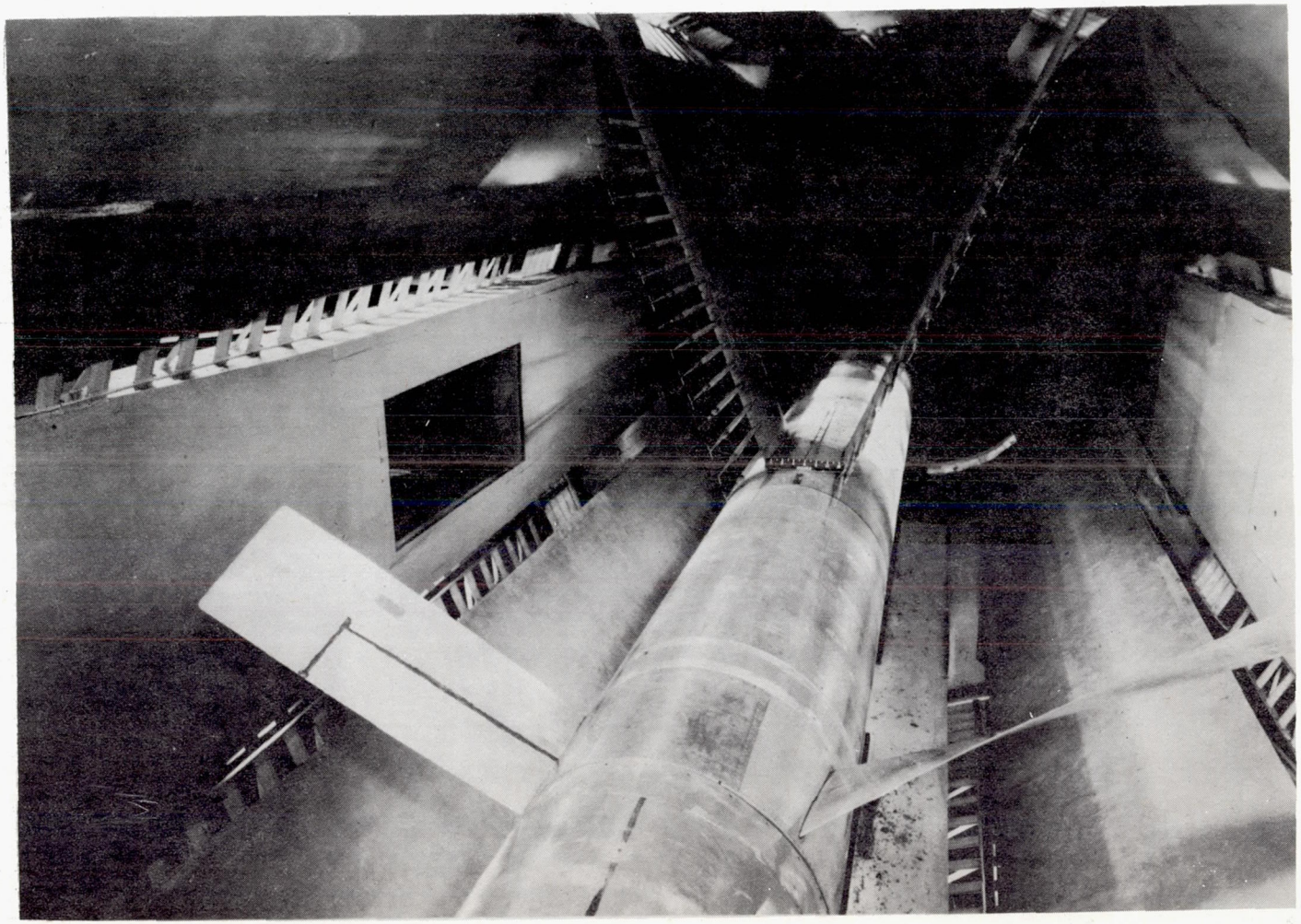

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Figure 1.- The 6,000-horsepower propeller dynamometer mounted in the Langley 16-foot transonic tunnel with propeller and wake-survey rakes installed.

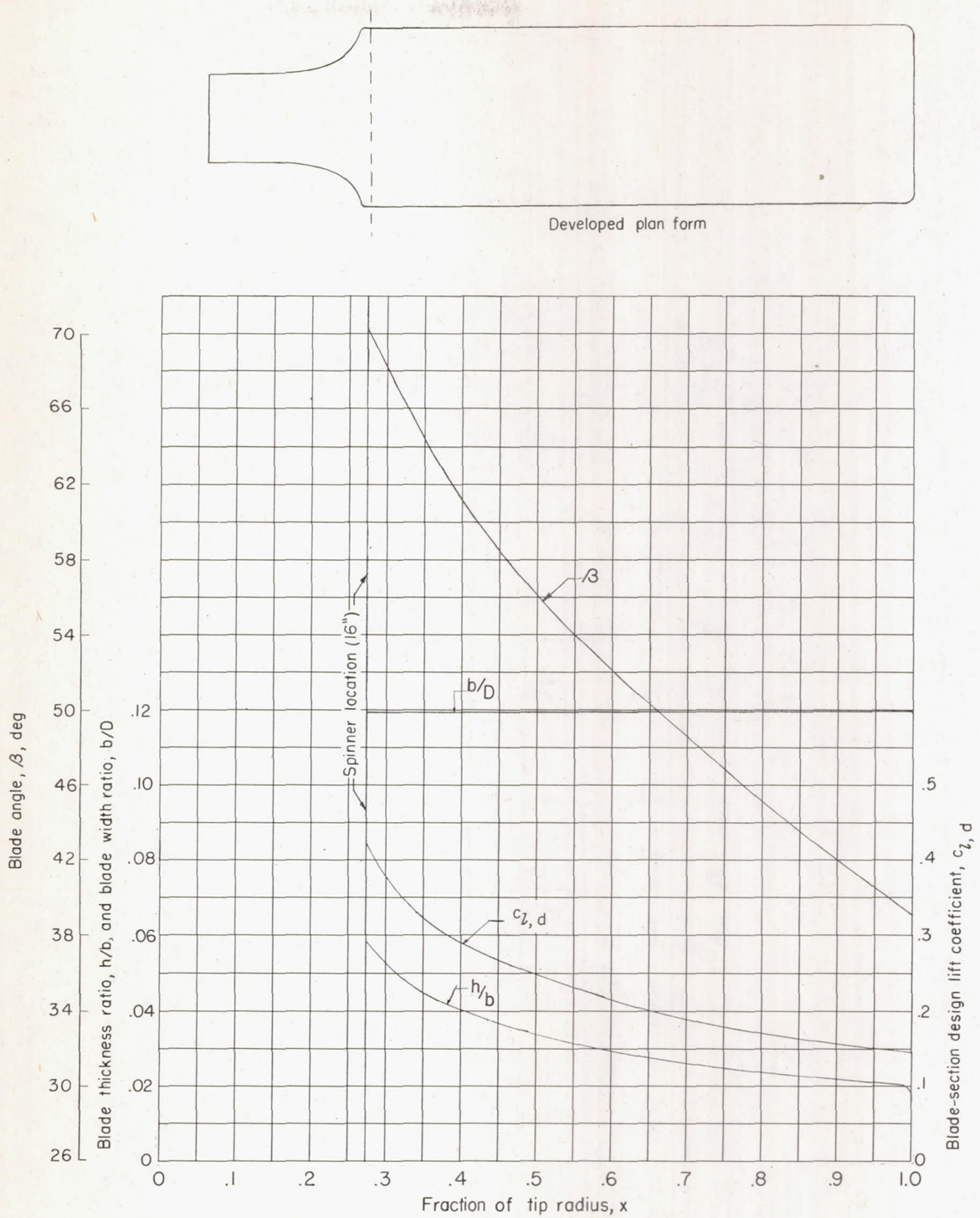

Figure 2.- Blade-form characteristics of the Curtiss-Wright supersonic propeller, design number 109626.

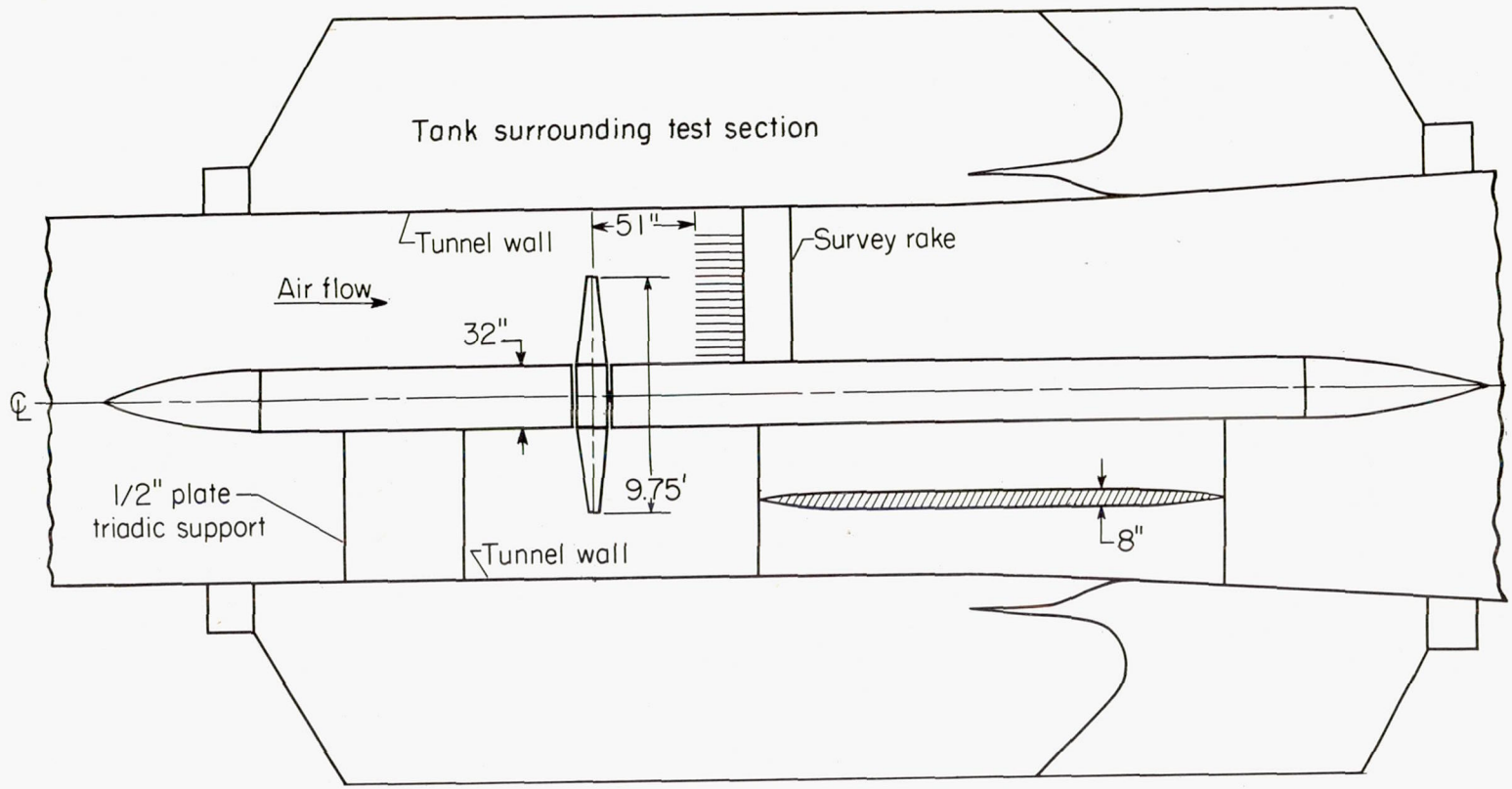

Figure 3.- Dynamometer and survey-rake installation in the test section of the Langley 16-foot transonic tunnel.

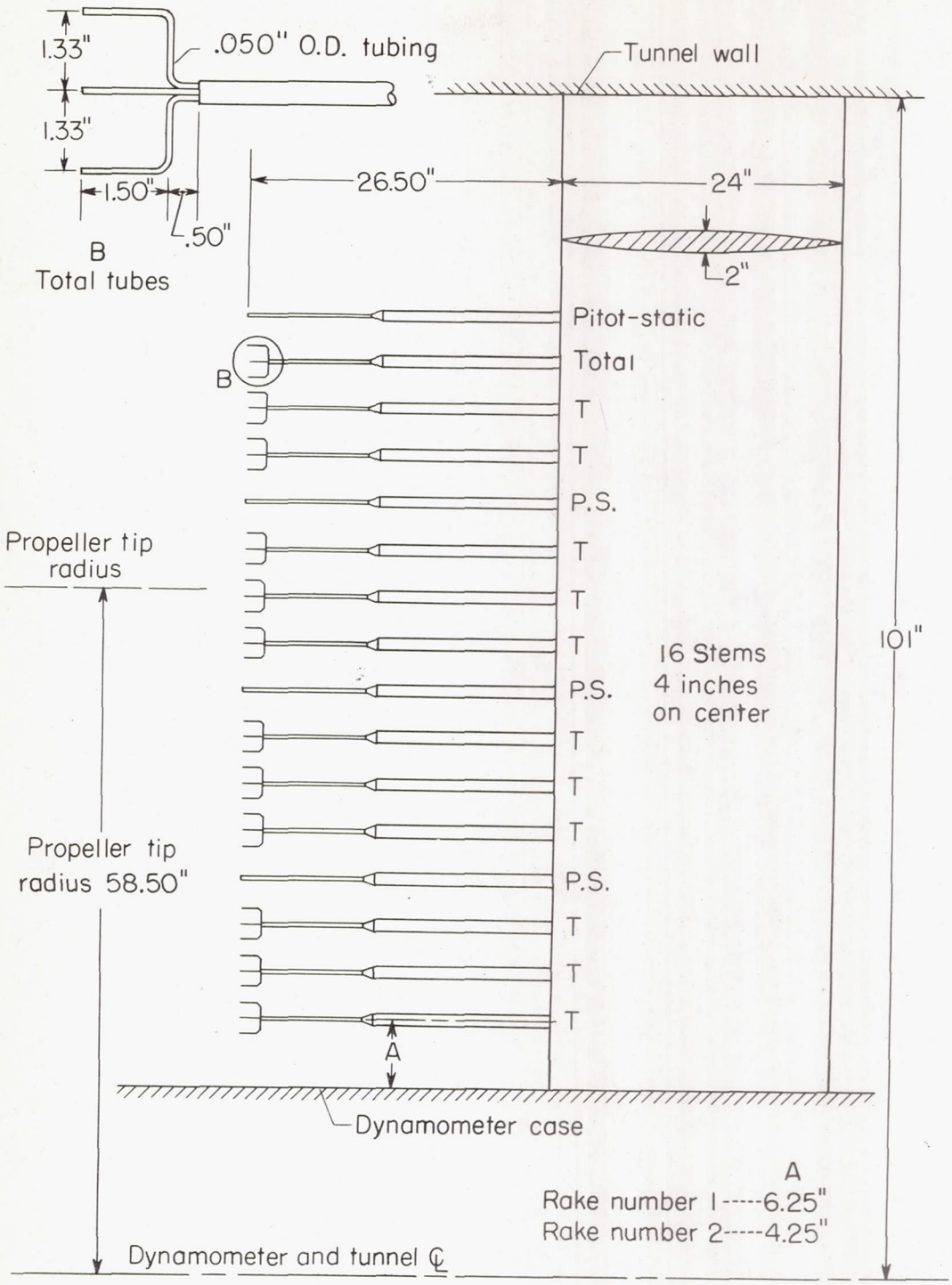

Figure 4.- Sketch of rake number 1. Rake number 2 is identical except in dimension A.